

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: DAWN GARRETT Examiner #: 710107 Date: 2/11/2002
 Art Unit: 1774 Phone Number 305-0188 Serial Number: 09/489,144
 Mail Box and Bldg/Rm Location: CPL 3 11D 30 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Electroluminescent Devices

Inventors (please provide full names): Nan-Xing Hu, Mohammad Esteghamatian,
Zoran D. Popovic, Beng S. Ong, Ah-Mee Hor

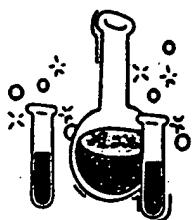
Earliest Priority Filing Date: 1/21/2000

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search

Attached claim 1

STAFF USE ONLY		Type of Search	Vendors and cost where applicable
Searcher:	<u>X. Fuller</u>	NA Sequence (#)	STN <input checked="" type="checkbox"/>
Searcher Phone #:		AA Sequence (#)	Dialog _____
Searcher Location:		Structure (#)	<u>+</u> Questel/Orbit _____
Date Searcher Picked Up:		Bibliographic	Dr.Link _____
Date Completed:	<u>2/21/02</u>	Litigation	Lexis/Nexis _____
Searcher Prep & Review Time:	<u>20</u>	Fulltext	Sequence Systems _____
Clerical Prep Time:		Patent Family	WWW/Internet _____
Online Time:	<u>37</u>	Other	Other (specify) _____



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Kathleen Fuller 308-4290 Eric Linnell 308-4143 Tim Saunders 308-4139
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Calculated physical property data is now available. See HELP PROPERTIES
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=> FILE HCPLUS

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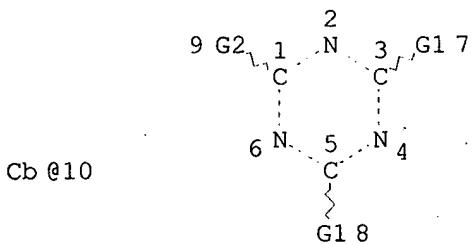
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FILE COVERS 1907 - 18 Feb 2002 VOL 136 ISS 8
FILE LAST UPDATED: 17 Feb 2002 (20020217/ED)

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> D QUE
L3

STR



352 structures per this query

Cb~G3~Cb
@11 12 13

VAR G1=AK/CB
VAR G2=10/11
REP G3=(0-2) C
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
GGCAT IS PCY UNS AT 10
GGCAT IS UNS AT 11
GGCAT IS UNS AT 13
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE
L5 352 SEA FILE=REGISTRY SSS FUL L3
L6 367 SEA FILE=HCAPLUS ABB=ON L5
L7 13 SEA FILE=HCAPLUS ABB=ON L6 AND ?LUMINESC?
L8 3 SEA FILE=HCAPLUS ABB=ON L6 AND EL
L9 5 SEA FILE=HCAPLUS ABB=ON L6 AND ELECTRON?(4A)TRANSPORT?
L10 8 SEA FILE=HCAPLUS ABB=ON L6 AND LIGHT?(4A)EMIT?
L11 15 SEA FILE=HCAPLUS ABB=ON (L7 OR L8 OR L9 OR L10)

=> D ALL L11 1-15 HITSTR

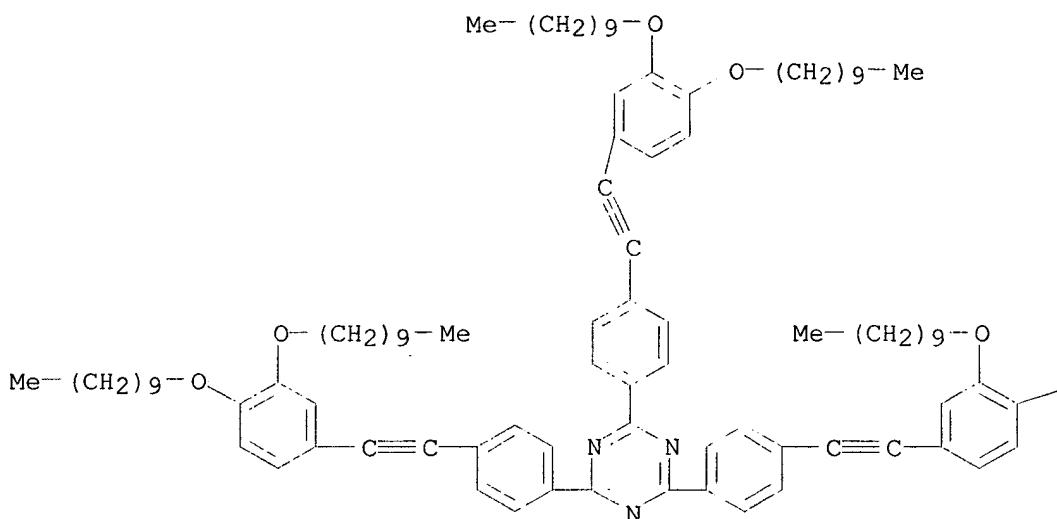
15 references from the
structures & utility

L11 ANSWER 1 OF 15 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:402243 HCAPLUS
DN 135:160421
TI Synthesis and characterization of a new class of liquid-crystalline,
highly luminescent molecules containing a 2,4,6-triphenyl-1,3,5-
triazine unit
AU Lee, C.-H.; Yamamoto, T.
CS Chemical Resources Laboratory, Tokyo Institute of Technology, Midori-ku,
Yokohama, 226-8503, Japan
SO Tetrahedron Letters (2001), 42(24), 3993-3996
CODEN: TELEAY; ISSN: 0040-4039
PB Elsevier Science Ltd.
DT Journal
LA English
CC 75-11 (Crystallography and Liquid Crystals)

- Section cross-reference(s): 28, 73
- AB A new class of 2,4,6-triphenyl-1,3,5-triazine derivs. having long alkoxy side chains were synthesized by a Pd(0)/Cu(I)-catalyzed C-C coupling reaction. These compds. behave as liq.-cryst. materials and show quantum yields >50% in photoluminescence.
- ST phenyltriazine alkoxy deriv prepn liq crystal luminescence
- IT Liquid crystals
(columnar hexagonal disordered; prepn. and properties of triphenyltriazine derivs. having long alkoxy side chains)
- IT Luminescence
(of triphenyltriazine derivs. having long alkoxy side chains)
- IT 30363-03-2
RL: RCT (Reactant)
(Pd(0)/Cu(I)-catalyzed C-C coupling reaction with didecyloxyphenylacetylene)
- IT 352432-33-8
RL: RCT (Reactant)
(Pd(0)/Cu(I)-catalyzed C-C coupling reaction with tris(bromophenyl)triazine)
- IT 352432-28-1P 352432-29-2P
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(prep. and liq. crystal properties and luminescence of)
- IT 352432-27-0P 352432-32-7P
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(prep. and solid-state polymorphism and luminescence of)
- IT 352432-30-5P 352432-31-6P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prep. and thermal behavior and luminescence of)
- RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD
- RE
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 (38) Yu, L; Adv Mater 1994, V6, P156 HCPLUS
- IT 352432-28-1P 352432-29-2P
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN
 (Synthetic preparation); PREP (Preparation); PROC (Process)
 (prepn. and liq. crystal properties and luminescence of)
- RN 352432-28-1 HCPLUS
 CN 1,3,5-Triazine, 2,4,6-tris[4-[(3,4-bis(decyloxy)phenyl)ethynyl]phenyl]-
 (9CI) (CA INDEX NAME)

PAGE 1-A



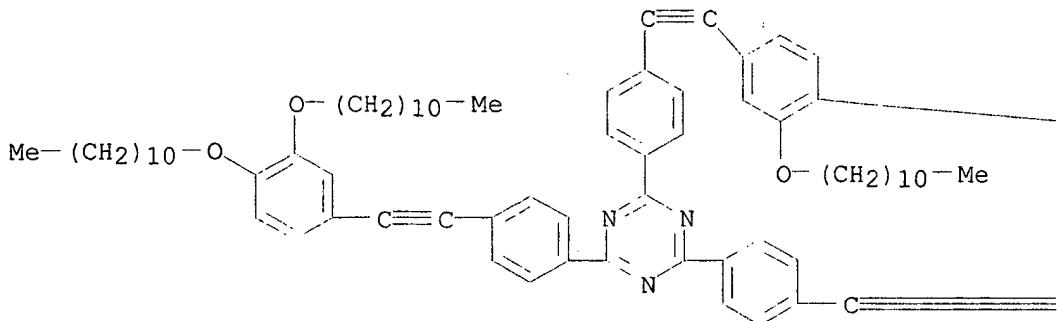
PAGE 1-B

 $\text{O}-(\text{CH}_2)_9-\text{Me}$

RN 352432-29-2 HCPLUS

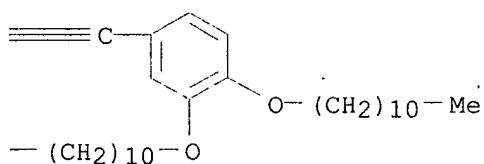
CN 1,3,5-Triazine, 2,4,6-tris[4-[3,4-bis(undecyloxy)phenyl]ethynyl]phenyl]-
(9CI) (CA INDEX NAME)

PAGE 1-A



Me—

PAGE 1-B

— O—(CH₂)₁₀—Me

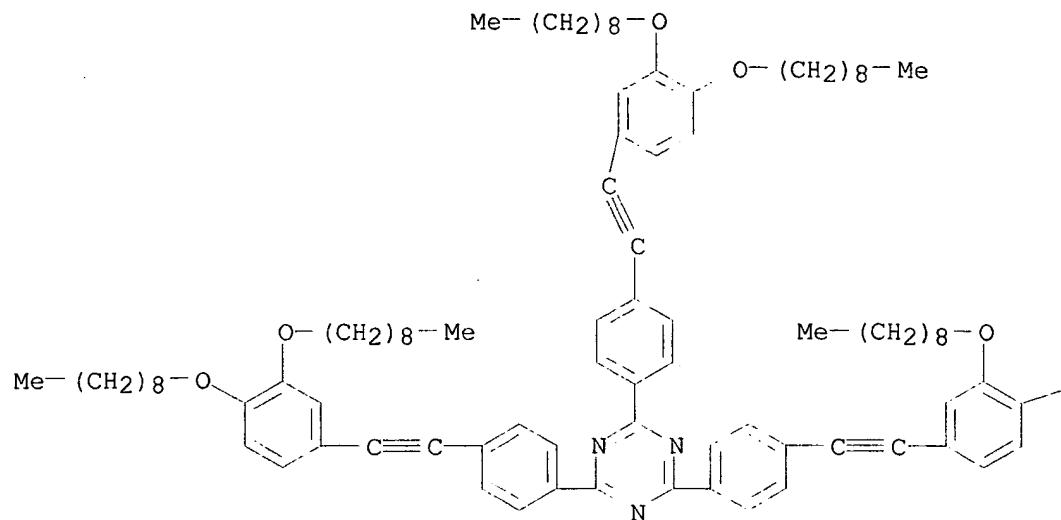
IT 352432-27-0P 352432-32-7P

RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN
(Synthetic preparation); PREP (Preparation); PROC (Process)
(prepn. and solid-state polymorphism and luminescence of)

RN 352432-27-0 HCPLUS

CN 1,3,5-Triazine, 2,4,6-tris[4-[3,4-bis(nonyloxy)phenyl]ethynyl]phenyl]-
(9CI) (CA INDEX NAME)

PAGE 1-A

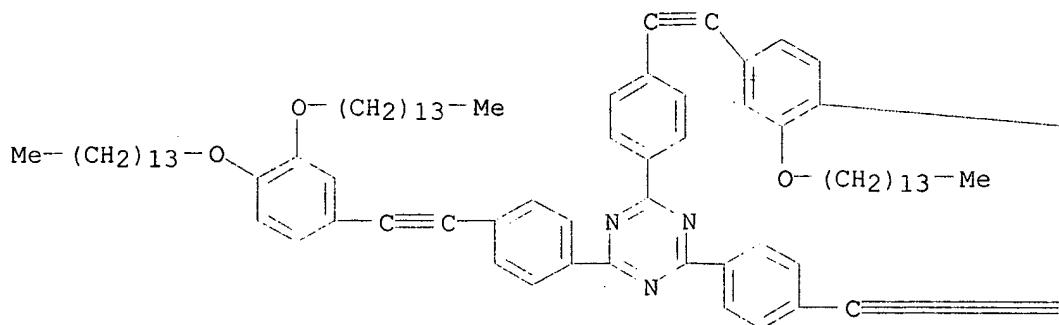


PAGE 1-B

 $\text{O-(CH}_2\text{)}_8\text{-Me}$

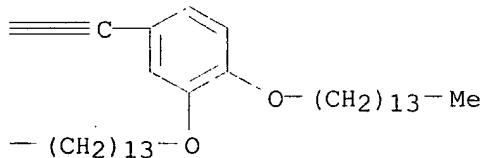
RN 352432-32-7 HCPLUS
CN 1,3,5-Triazine, 2,4,6-tris[4-[{3,4-bis(tetradecyloxy)phenyl}ethynyl]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



Me—

PAGE 1-B

— O—(CH₂)₁₃—Me

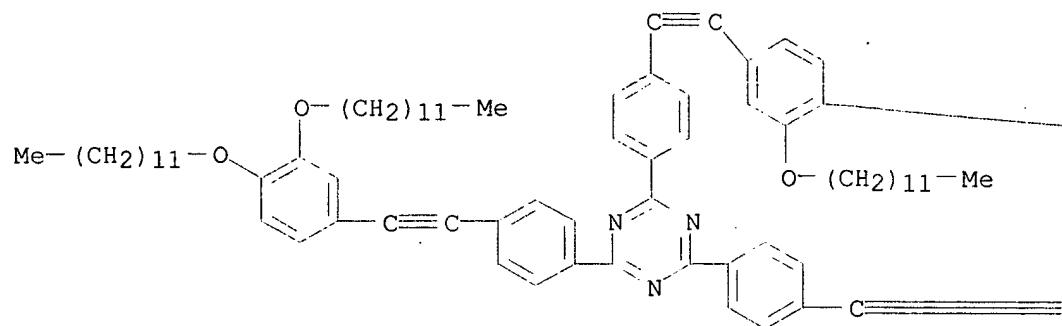
IT 352432-30-5P 352432-31-6P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and thermal behavior and luminescence of)

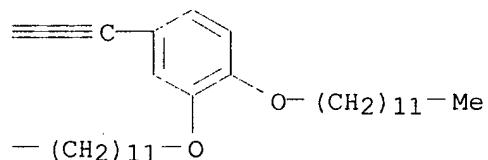
RN 352432-30-5 HCAPLUS

CN 1,3,5-Triazine, 2,4,6-tris[4-[[3,4-bis(dodecyloxy)phenyl]ethynyl]phenyl]-
(9CI) (CA INDEX NAME)

PAGE 1-A

 $\text{Me}-$

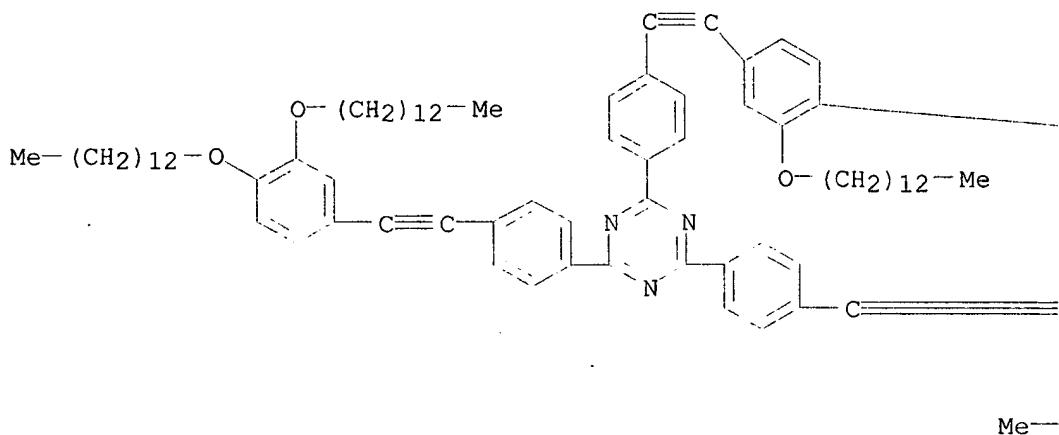
PAGE 1-B

 $\text{---O}-(\text{CH}_2)_{11}-\text{Me}$ 

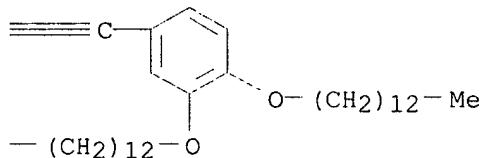
RN 352432-31-6 HCPLUS

CN 1,3,5-Triazine, 2,4,6-tris[4-[3,4-bis(tridecylloxy)phenyl]ethynyl]phenyl-
(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

— O—(CH₂)₁₂—Me

L11 ANSWER 2 OF 15 HCAPLUS COPYRIGHT 2002 ACS
 AN 2001:400141 HCAPLUS
 DN 135:187363
 TI Degradation in tris(8-hydroxyquinoline) aluminum (Alq₃)-based organic
 light-emitting devices (OLEDs)
 AU Aziz, Hany; Popovic, Zoran D.; Hu, Nan-Xing; DosAnjos, Paulo; Ioannidis,
 Andronique
 CS Xerox Research Center of Canada, Mississauga, ON, Can.
 SO Proceedings of SPIE-The International Society for Optical Engineering
 (2001), 4105(Organic Light-Emitting Materials and Devices IV), 251-255
 CODEN: PSISDG; ISSN: 0277-786X
 PB SPIE-The International Society for Optical Engineering
 DT Journal
 LA English
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related
 Properties)
 Section cross-reference(s): 76

applicant

AB Poor device stability was a major concern for org. light emitting devices (OLEDs). The relatively short operational lifetime of the OLEDs is predominantly attributed to an intrinsic degrdn. behavior, which decreases the **electroluminescence** quantum efficiency of the devices in time. Recently, the injection of holes in tris(8-hydroxyquinoline) Al (AlQ₃), the most widely used org. **electroluminescent** material, is the main factor responsible for the intrinsic degrdn. behavior in OLEDs. The **photoluminescence** quantum efficiency of AlQ₃ decreases as a result of predominantly hole current flow. Further studies using time-resolved fluorescence measurements reveal that degrdn. is also assocd. with a decrease in the lifetime of the AlQ₃ excited states, thus revealing the nature of the degrdn. products as **luminescence** quenchers. Various phenomena pertaining to device degrdn. is discussed.

ST degrdn hydroxyquinoline aluminum org light emitting device

IT Aging, materials

Electroluminescent devices

Luminescence

Luminescence, electroluminescence

 (degrdn. in tris(8-hydroxyquinoline)-aluminum-based org. light -emitting devices)

IT 2085-33-8, Tris(8-hydroxyquinolato) aluminum 123847-85-8, NPB
266349-83-1

RL: DEV (Device component use); PRP (Properties); USES (Uses)
(degrdn. in tris(8-hydroxyquinoline)-aluminum-based org. light -emitting devices)

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

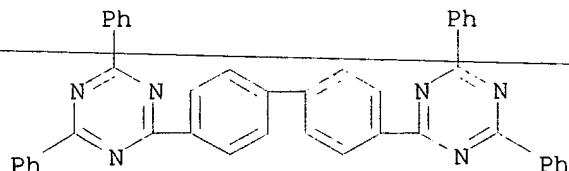
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IT 266349-83-1

RL: DEV (Device component use); PRP (Properties); USES (Uses)
(degrdn. in tris(8-hydroxyquinoline)-aluminum-based org. light -emitting devices)

RN 266349-83-1 HCPLUS

CN 1,3,5-Triazine, 2,2'-[1,1'-biphenyl]-4,4'-diylbis[4,6-diphenyl- (9CI) (CA INDEX NAME)

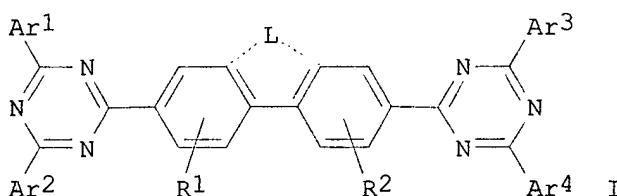


AN 2001:331334 HCAPLUS
DN 134:340526 *application*
TI Triazine compositions
IN Hu, Nan-Xing; Popovic, Zoran D.; Ong, Beng S.; Aziz, Hany
PA Xerox Corporation, USA
SO U.S., 19 pp., Cont.-in-part of U.S. 6,057,048.

applicata

CODEN: USXXAM
 DT Patent
 LA English
 IC ICM C07D251-24
 NCL 544180000
 CC 28-19 (Heterocyclic Compounds (More Than One Hetero Atom))
 Section cross-reference(s): 73
 FAN.CNT 2
 PATENT NO. KIND DATE APPLICATION NO. DATE

 PI US 6229012 B1 20010508 US 2000-489527 20000121
 US 6057048 A 20000502 US 1998-164753 19981001
 PRAI US 1998-164753 A2 19981001
 OS MARPAT 134:340526
 GI



AB Triazine compds. are described by the general formula I (Ar1, Ar2, Ar3, and Ar4 = independently selected aryl and/or aliph. groups; R1 and R2 independently selected H, alkyl, aryl, alkoxy, halo, and cyano; and L is a divalent group which may be absent). Use of the compds. in electroluminescent devices is indicated.

ST electroluminescent triazine deriv

IT Phosphors
(electroluminescent; triazine derivs.)

IT Electroluminescent devices
(triazine compns. for)

IT Azines
RL: TEM (Technical or engineered material use); USES (Uses)
(triazine derivs.)

IT 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 50926-11-9, Indium tin oxide 58328-31-7 123847-85-8 182947-41-7, Magnesium 90, silver 10 (atomic)
RL: DEV (Device component use); USES (Uses)
(triazine compns. in electroluminescent devices with)

IT 266349-83-1P 266349-84-2P 266349-85-3P
~~266349-86-4P 337953-32-9P~~
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(triazine derivs.)

IT 95-50-1, 1,2-Dichlorobenzene 100-47-0, Benzonitrile, reactions
104-85-8, p-Tolunitrile 620-22-4 874-90-8, 4-Methoxybenzonitrile
2351-37-3, 4,4'-Biphenyldicarbonyl chloride 4210-32-6,
4-tert-Butylbenzonitrile

RL: RCT (Reactant)
 (triazine derivs.)

IT 266349-88-6 336624-16-9 336624-17-0
 336624-18-1 336624-19-2 337953-25-0
 337953-26-1 337953-27-2 337953-28-3
 337953-29-4 337953-30-7 337953-31-8

RL: TEM (Technical or engineered material use); USES (Uses)
 (triazine derivs.)

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

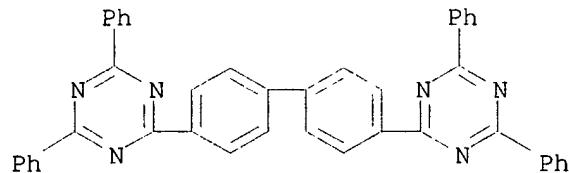
- (1) Arakawa; US 4448222 1984
- (2) Fink; Macromol Symp 1997, V125, P151
- (3) Gurnee; US 3172862 1965 HCPLUS
- (4) Hamada; Jpn J Appl Phys 1995, V34, PL824 HCPLUS
- (5) Hu; US 5846666 1998 HCPLUS
- (6) Hu; US 5891587 1999 HCPLUS
- (7) Hu; US 5925472 1999 HCPLUS
- (8) Hu; US 5932363 1999 HCPLUS
- (9) Hu; US 5942340 1999 HCPLUS
- (10) Hu; US 5952115 1999 HCPLUS
- (11) Hu; US 6057048 2000 HCPLUS
- (12) Matsuura; US 5516577 1996 HCPLUS
- (13) Mehl; US 3530325 1970 HCPLUS
- (14) Namiki; US 5429884 1995 HCPLUS
- (15) Tang; US 4356429 1982 HCPLUS
- (16) Tang; US 4769292 1988 HCPLUS
- (17) Tang; US 4885211 1989 HCPLUS
- (18) Vanslyke; US 4539507 1985
- (19) Vanslyke; US 4720432 1988 HCPLUS
- (20) Vanslyke; US 5150006 1992 HCPLUS
- (21) Vanslyke; US 5151629 1992 HCPLUS

IT 266349-83-1P 266349-84-2P 266349-85-3P
 266349-86-4P 337953-32-9P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (triazine derivs.)

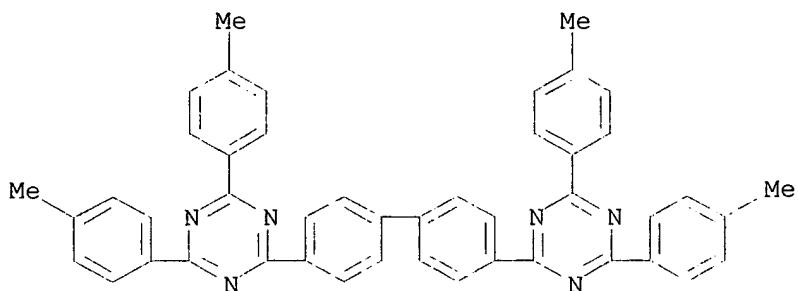
RN 266349-83-1 HCPLUS

CN 1,3,5-Triazine, 2,2'-[1,1'-biphenyl]-4,4'-diylbis[4,6-diphenyl- (9CI) (CA INDEX NAME)



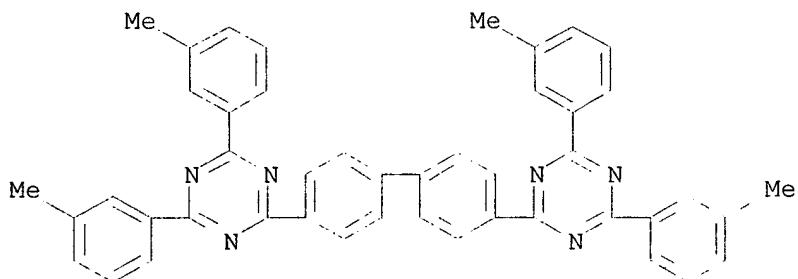
RN 266349-84-2 HCPLUS

CN 1,3,5-Triazine, 2,2'-(1,1'-biphenyl)-4,4'-diylbis[4,6-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)]



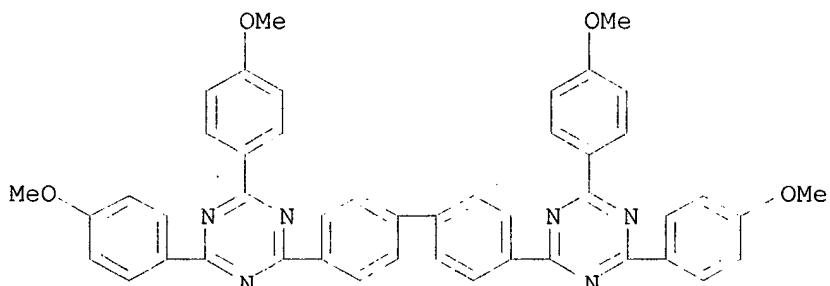
RN 266349-85-3 HCAPLUS

CN 1,3,5-Triazine, 2,2'-(1,1'-biphenyl)-4,4'-diylbis[4,6-bis(3-methylphenyl)-
(9CI) (CA INDEX NAME)



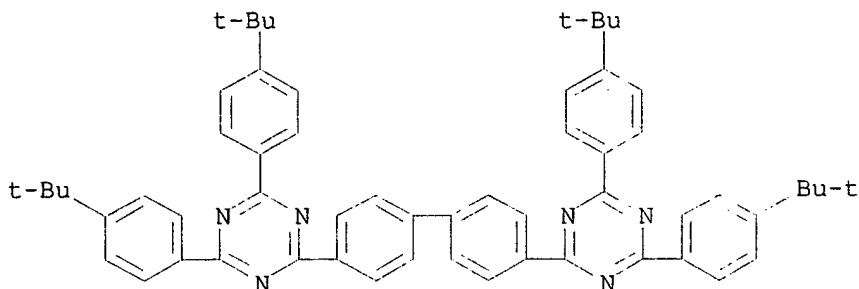
RN 266349-86-4 HCAPLUS

CN 1,3,5-Triazine, 2,2'-(1,1'-biphenyl)-4,4'-diylbis[4,6-bis(4-methoxyphenyl)-
(9CI) (CA INDEX NAME)



RN 337953-32-9 HCAPLUS

CN 1,3,5-Triazine, 2,2'-(1,1'-biphenyl)-4,4'-diylbis[4,6-bis[4-(1,1-dimethylethyl)phenyl]-
(9CI) (CA INDEX NAME)

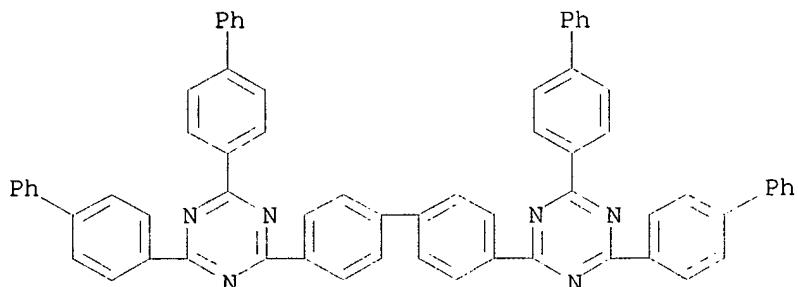


IT 266349-88-6 336624-16-9 336624-17-0
336624-18-1 336624-19-2 337953-25-0
337953-26-1 337953-27-2 337953-28-3

RL: TEM (Technical or engineered material use); USES (Uses)
(triazine derivs.)

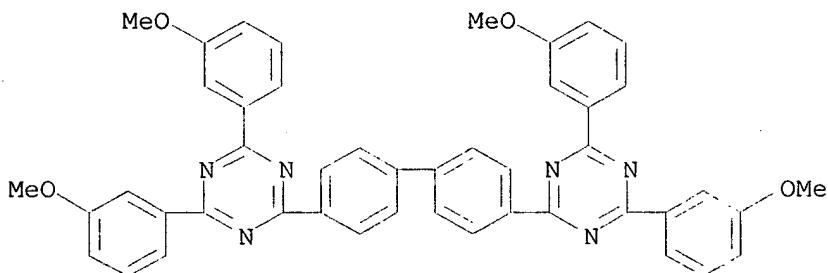
RN 266349-88-6 HCAPLUS

CN 1,3,5-Triazine, 2,2'-[1,1'-biphenyl]-4,4'-diylbis[4,6-bis[1,1'-biphenyl]-4-yl- (9CI) (CA INDEX NAME)



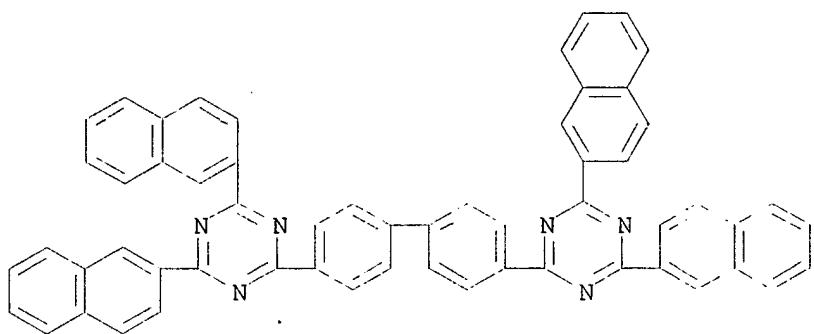
RN 336624-16-9 HCAPLUS

CN 1,3,5-Triazine, 2,2'-[1,1'-biphenyl]-4,4'-diylbis[4,6-bis(3-methoxyphenyl)- (9CI) (CA INDEX NAME)



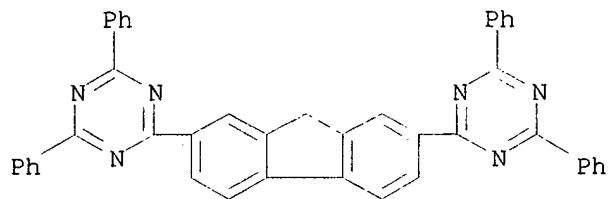
RN 336624-17-0 HCAPLUS

CN 1,3,5-Triazine, 2,2'-[1,1'-biphenyl]-4,4'-diylbis[4,6-di-2-naphthalenyl- (9CI) (CA INDEX NAME)



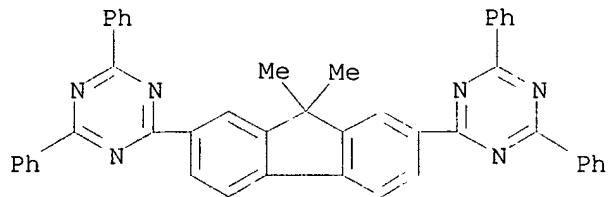
RN 336624-18-1 HCAPLUS

CN 1,3,5-Triazine, 2,2'-9H-fluorene-2,7-diylbis[4,6-diphenyl- (9CI) (CA INDEX NAME)]



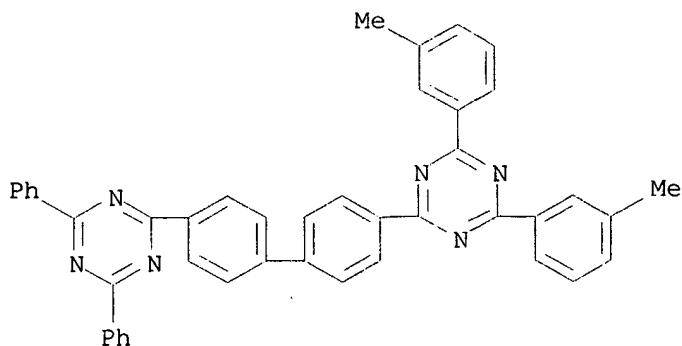
RN 336624-19-2 HCAPLUS

CN 1,3,5-Triazine, 2,2'-(9,9-dimethyl-9H-fluorene-2,7-diyl)bis[4,6-diphenyl- (9CI) (CA INDEX NAME)]

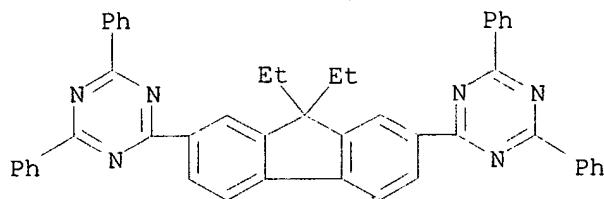


RN 337953-25-0 HCAPLUS

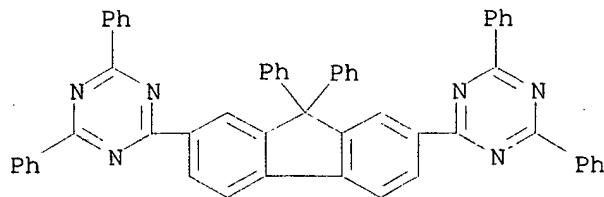
CN 1,3,5-Triazine, 2-[4'-(4,6-bis(3-methylphenyl)-1,3,5-triazin-2-yl)[1,1'-biphenyl]-4-yl]-4,6-diphenyl- (9CI) (CA INDEX NAME)



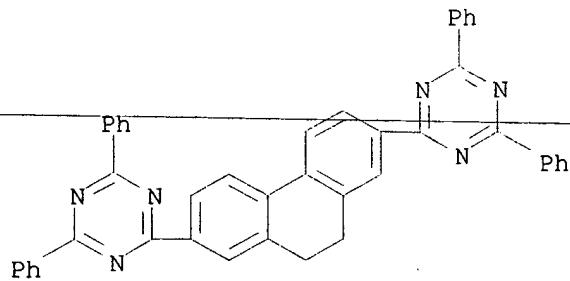
RN 337953-26-1 HCAPLUS

CN 1,3,5-Triazine, 2,2'-(9,9-diethyl-9H-fluorene-2,7-diyl)bis[4,6-diphenyl-
(9CI) (CA INDEX NAME)

RN 337953-27-2 HCAPLUS

CN 1,3,5-Triazine, 2,2'-(9,9-diphenyl-9H-fluorene-2,7-diyl)bis[4,6-diphenyl-
(9CI) (CA INDEX NAME)

RN 337953-28-3 HCAPLUS

CN 1,3,5-Triazine, 2,2'-(9,10-dihydro-2,7-phenanthrenediyl)bis[4,6-diphenyl-
(9CI) (CA INDEX NAME)

L11 ANSWER 4 OF 15 HCPLUS COPYRIGHT 2002 ACS
 AN 2001:312442 HCPLUS
 DN 134:333997
 TI Triazine derivatives and **electroluminescent (EL)**
 devices using them
 IN Esteghamatian, Mohammad; Hu, Nan-xing; Popovic, Zoran D.; Hor, Ah-mee;
Ong, Beng S. *applicants*
 PA Xerox Corporation, USA
 SO U.S., 21 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 IC ICM C07D251-24
 ICS H05B033-14
 NCL 544180000
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related
 Properties)
 Section cross-reference(s): 29, 76
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6225467	B1	20010501	US 2000-489754	20000121

 GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title triazine derivs. are described by the general formulas I-IV (Ar1-4 = independently selected aryl groups; R1, R2 = H, alkyl, aryl, alkoxy, halo, and cyano; R3, R4 = -C(R'R")-, alkylene, O, S, and -Si(R'R")-; and R' and R" = H, alkyl, alkoxy, and aryl). **Electroluminescent** devices employing the derivs. as **electron transport** layers are also described.
 ST triazine deriv **electroluminescent** device **electron transport** layer
 IT Phosphors
 (**electroluminescent**; triazine derivs. and **electroluminescent** devices using them in **electron transport** layers)
 IT **Electroluminescent** devices
 (triazine derivs. and **electroluminescent** devices using them in **electron transport** layers)
 IT 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 12614-86-7 50926-11-9,
 Indium tin oxide 58328-31-7 123847-85-8 **266349-86-4**
266349-90-0 **336624-13-6** **336624-14-7**
336624-15-8 **336624-16-9** **336624-17-0**
336624-18-1 **336624-19-2**
 RL: DEV (Device component use); USES (Uses)
 (triazine derivs. and **electroluminescent** devices using them in **electron transport** layers)
 IT 6888-33-1P 31274-51-8P **266349-83-1P**
266349-84-2P **266349-85-3P**
 RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (triazine derivs. and **electroluminescent** devices using them in **electron transport** layers)
 IT 100-47-0, Benzonitrile, reactions 104-85-8, p-Tolunitrile 620-22-4

2351-37-3, 4,4'-Biphenyldicarbonyl chloride 2920-38-9,
 4-Biphenylcarbonitrile 14002-51-8, 4-Biphenylcarbonyl chloride
 16107-88-3

RL: RCT (Reactant)
 (triazine derivs. and **electroluminescent** devices using them
 in **electron transport** layers)

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

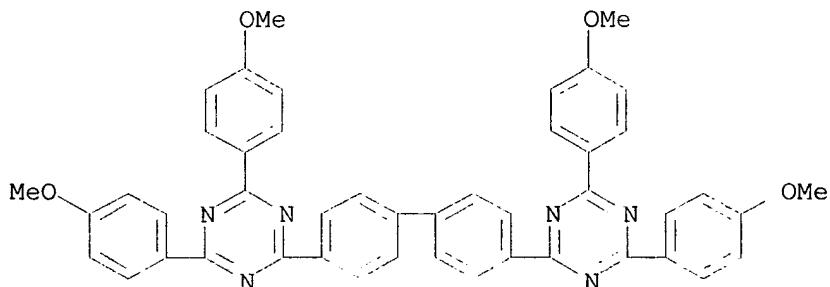
- (1) Fink; Macromol Symp 1997, V125, P151
- (2) Gurnee; US 3172862 1965 HCPLUS
- (3) Hamada; Jpn J Appl Phys 1995, V34, PL824 HCPLUS
- (4) Hu; US 5891587 1999 HCPLUS
- (5) Hu; US 5925472 1999 HCPLUS
- (6) Hu; US 5932363 1999 HCPLUS
- (7) Hu; US 5942340 1999 HCPLUS
- (8) Hu; US 5952115 1999 HCPLUS
- (9) Hu; US 6057048 2000 HCPLUS
- (10) Matsuura; US 5516577 1996 HCPLUS
- (11) Mehl; US 3530325 1970 HCPLUS
- (12) Namiki; US 5429884 1995 HCPLUS
- (13) Tang; US 4356429 1982 HCPLUS
- (14) Tang; US 4769292 1988 HCPLUS
- (15) Tang; US 4885211 1989 HCPLUS
- (16) Vanslyke; US 4539507 1985
- (17) Vanslyke; US 4720432 1988 HCPLUS
- (18) Vanslyke; US 5150006 1992 HCPLUS
- (19) Vanslyke; US 5151629 1992 HCPLUS

IT 266349-86-4 266349-90-0 336624-13-6
 336624-14-7 336624-15-8 336624-16-9
 336624-17-0 336624-18-1 336624-19-2

RL: DEV (Device component use); USES (Uses)
 (triazine derivs. and **electroluminescent** devices using them
 in **electron transport** layers)

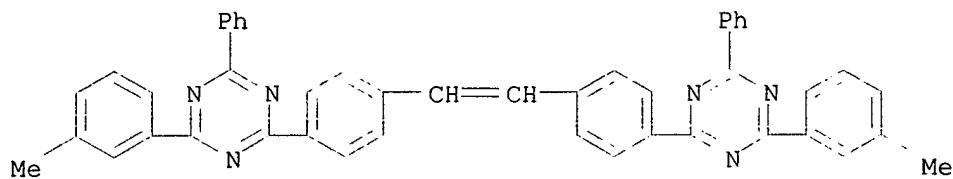
RN 266349-86-4 HCPLUS

CN 1,3,5-Triazine, 2,2'-(1,1'-biphenyl)-4,4'-diylbis[4,6-bis(4-methoxyphenyl)-
 (9CI) (CA INDEX NAME)]



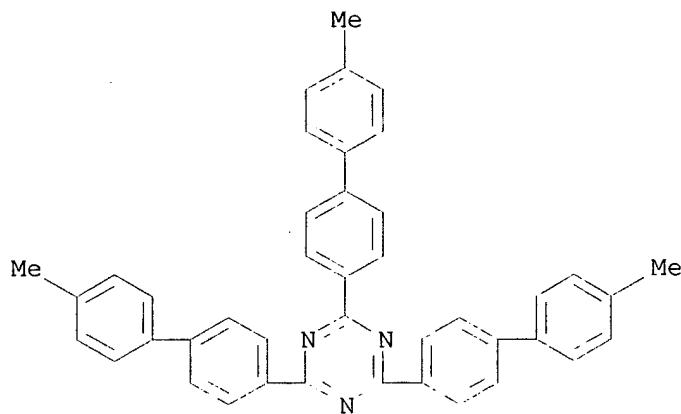
RN 266349-90-0 HCPLUS

CN 1,3,5-Triazine, 2,2'-(1,2-ethenediyli-4,1-phenylene)bis[4-(3-methylphenyl)-6=phenyl--(9CI)--(CA INDEX NAME)]



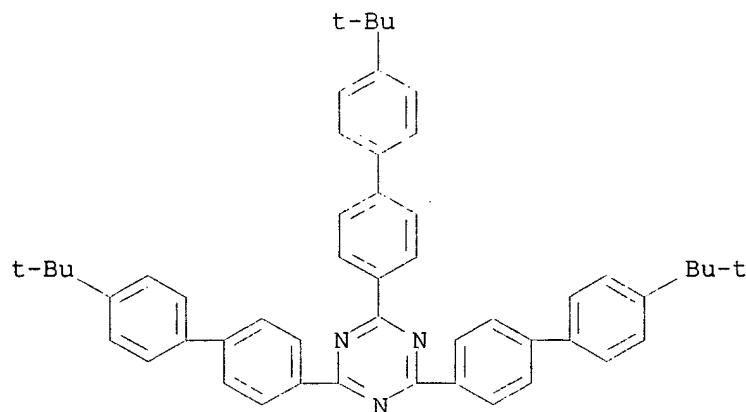
RN 336624-13-6 HCAPLUS

CN 1,3,5-Triazine, 2,4,6-tris(4'-methyl[1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)



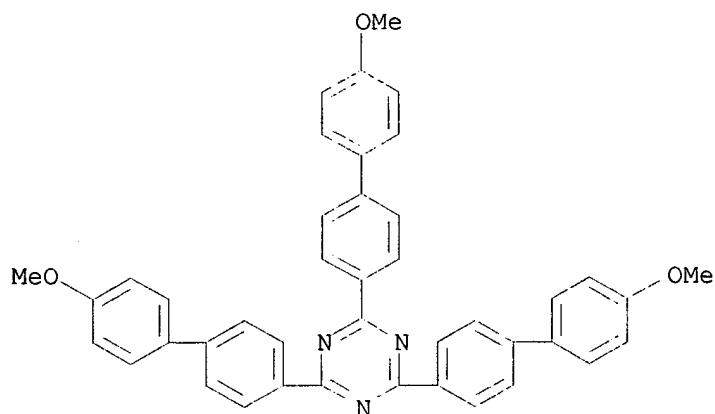
RN 336624-14-7 HCAPLUS

CN 1,3,5-Triazine, 2,4,6-tris[4'-(1,1-dimethylethyl)[1,1'-biphenyl]-4-yl]- (9CI) (CA INDEX NAME)

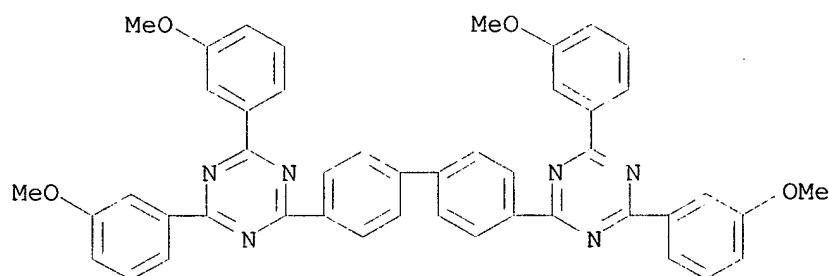


RN 336624-15-8 HCAPLUS

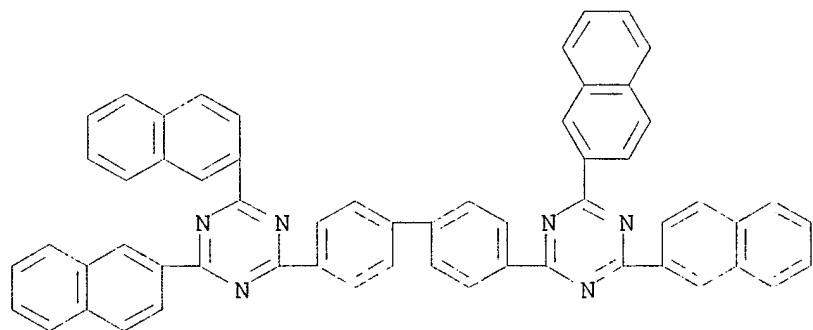
CN 1,3,5-Triazine, 2,4,6-tris(4'-methoxy[1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)



RN 336624-16-9 HCAPLUS

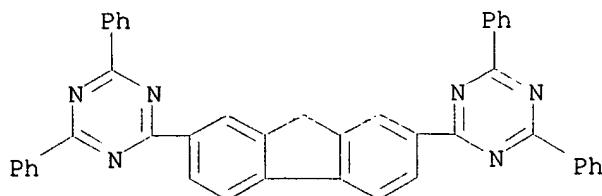
CN 1,3,5-Triazine, 2,2'-(1,1'-biphenyl)-4,4'-diylbis[4,6-bis(3-methoxyphenyl)-]
(9CI) (CA INDEX NAME)

RN 336624-17-0 HCAPLUS

CN 1,3,5-Triazine, 2,2'-(1,1'-biphenyl)-4,4'-diylbis[4,6-di-2-naphthalenyl-]
(9CI) (CA INDEX NAME)

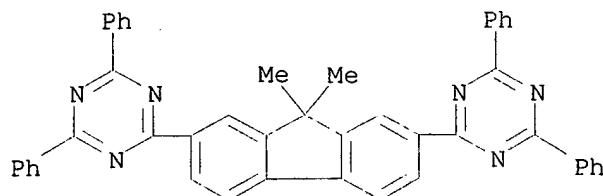
RN 336624-18-1 HCAPLUS

CN 1,3,5-Triazine, 2,2'-(9H-fluorene-2,7-diyl)-4,4'-diylbis[4,6-diphenyl-] (9CI) (CA
INDEX NAME)



RN 336624-19-2 HCAPLUS

CN 1,3,5-Triazine, 2,2'-(9,9-dimethyl-9H-fluorene-2,7-diyl)bis[4,6-diphenyl-(9CI) (CA INDEX NAME)]



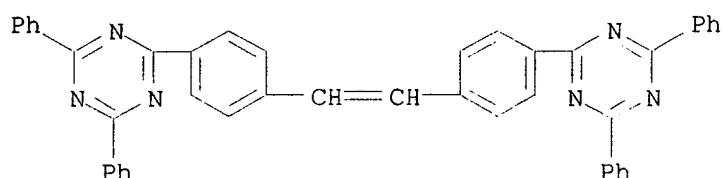
IT 6888-33-1P 31274-51-8P 266349-83-1P

266349-84-2P 266349-85-3P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (triazine derivs. and **electroluminescent** devices using them
 in **electron transport** layers)

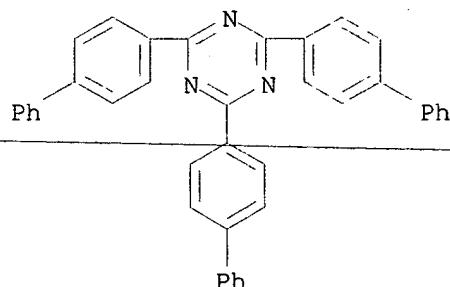
RN 6888-33-1 HCAPLUS

CN 1,3,5-Triazine, 2,2'-(1,2-ethenediyldi-4,1-phenylene)bis[4,6-diphenyl-(9CI) (CA INDEX NAME)]



RN 31274-51-8 HCAPLUS

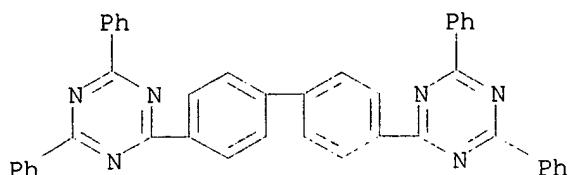
CN 1,3,5-Triazine, 2,4,6-tris[1,1'-biphenyl]-4-yl- (9CI) (CA INDEX NAME)



RN 266349-83-1 HCAPLUS

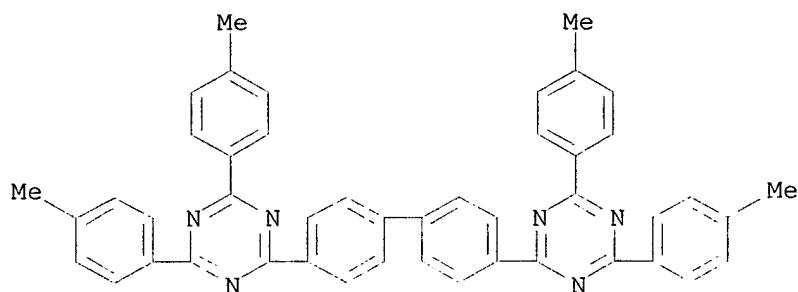
KATHLEEN FULLER EIC 1700/LAW LIBRARY 308-4290

CN 1,3,5-Triazine, 2,2'-[1,1'-biphenyl]-4,4'-diylbis[4,6-diphenyl- (9CI) (CA INDEX NAME)



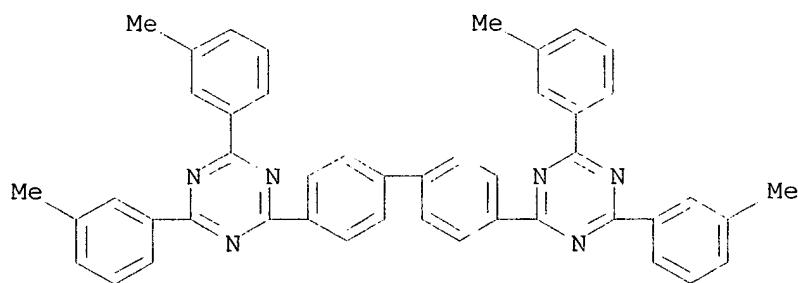
RN 266349-84-2 HCAPLUS

CN 1,3,5-Triazine, 2,2'-[1,1'-biphenyl]-4,4'-diylbis[4,6-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 266349-85-3 HCAPLUS

CN 1,3,5-Triazine, 2,2'-[1,1'-biphenyl]-4,4'-diylbis[4,6-bis(3-methylphenyl)- (9CI) (CA INDEX NAME)



L11 ANSWER 5 OF 15 HCAPLUS COPYRIGHT 2002 ACS

AN 2000:441449 HCAPLUS

DN 133:81409

TI Electroluminescent material, electroluminescent element and color conversion filter

IN Kita, Hiroshi; Suzuri, Yoshiyuki; Yamada, Taketoshi; Nakamura, Kazuaki; Ueda, Noriko; Okubo, Yasushi

PA Konica Corporation, Japan

SO Eur. Pat. Appl., 80 pp.
CODEN: EPXXDW

DT Patent

LA English

IC ICM C09K011-06

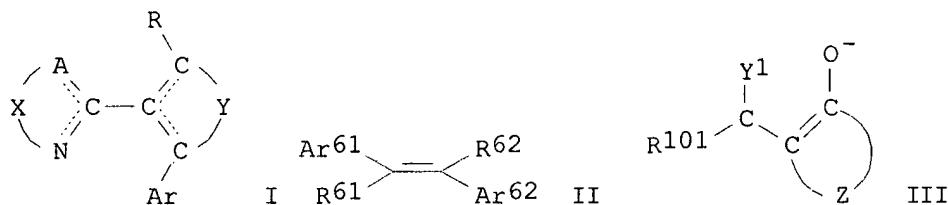
ICS H05B033-14; G02B005-20

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1013740	A2	20000628	EP 1999-125813	19991223
	EP 1013740	A3	20020130		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	KR 2000052560	A	20000825	KR 1999-61534	19991224
	JP 2001143869	A2	20010525	JP 1999-365996	19991224
PRAI	JP 1998-370452	A	19981225		
	JP 1999-246404	A	19990831		
OS	MARPAT 133:81409				
GI					



AB **Electroluminescent** materials are described which are based on derivs. of arom. heterocycles, binaphthyls, and triarylamines which include substituents (esp. biaryl substituents) contg. bonds capable of giving internal rotational isomerism, or on compds. described by the general formulas I (Ar = aryl; A = C, N, S or O; X = group of atoms necessary to form 5- or 6-member N contg. arom. heterocyclic ring; Y = group of atoms necessary to form 5- or 6-member arom. hydrocarbon or arom. heterocyclic ring, provided that the bond of C-N, C-A or C-C in the formula is a single or double bond; and R = H, substituent, or Ar) or II (Ar61 and Ar62 = each aryl or arom. heterocyclic; R61 and R62 = each H or substituent, provided that one of Ar61, Ar62, R61, and R62 = biaryl group contg. a bond capable of giving internal rotational isomerism or a group contg. such a biaryl group); rare earth metal complex fluorescent substances contg. at least an anionic ligand represented by the formula III (R101 = H or substituent; Y1 = O, S or N(R102); R102 = H or substituent; and Z = atoms forming a 4- to 8-membered ring) are also described. **Electroluminescent** elements comprising an **electroluminescent** material and a fluorescent substance emitting light having an emission max. at the wavelength different from that of light emitted from the **electroluminescent** material upon absorption of the light emitted from the **electroluminescent** material are also described, as are color conversion filters comprising a fluorescent substance emitting light having an emission max. at 400-700 nm upon absorption of the light emitted from the **electroluminescent** material.

ST **electroluminescent** compd internal rotation isomer substituent; **electroluminescent** device; rare earth complex fluorescent material color conversion filter

IT **Electroluminescent** devices
Fluorescent substances

Optical filters

Semiconductor **electroluminescent** devices

(**electroluminescent** materials based on compds. including substituents with internal rotation isomers and rare earth complex-based fluorescent materials and **electroluminescent** elements and color conversion filters)

IT Phosphors

(**electroluminescent**; **electroluminescent** materials based on compds. including substituents with internal rotation isomers and rare earth complex-based fluorescent materials and **electroluminescent** elements and color conversion filters)

IT 135-70-6, p-Quaterphenyl 2085-33-8, Tris(8-hydroxyquinolinato)aluminum
 50926-11-9, Indium tin oxide 65181-78-4, N,N'-Diphenyl-N,N'-bis(3-methylphenyl)-1,1'-biphenyl-4,4'-diamine 73364-01-9 78732-97-5
 96761-79-4, 5,5'-Bi-1,10-phenanthroline 100294-74-4 219843-55-7
 278601-15-3 278601-34-6 278610-55-2 278610-56-3 278610-58-5
278610-92-7 278610-94-9 278610-95-0 278610-97-2
 278611-00-0 278611-01-1 278611-03-3 278611-05-5 278611-09-9
 278611-10-2 278611-11-3 278611-12-4 278611-13-5 278611-15-7
 278611-16-8 278611-23-7 278611-25-9 278611-26-0 278611-27-1
 278611-28-2 278611-29-3 278611-30-6 278611-31-7 278611-33-9
 278794-68-6 278794-70-0 278794-72-2 278794-73-3 278794-75-5
 278794-77-7

RL: DEV (Device component use); USES (Uses)

(**electroluminescent** materials based on compds. including substituents with internal rotation isomers and rare earth complex-based fluorescent materials and **electroluminescent** elements and color conversion filters)

IT 78-10-4 2602-34-8, .gamma.-Glycidoxypropyltriethoxysilane 10022-31-8,
 Barium nitrate 14284-86-7, Europium (III) acetylacetone

RL: RCT (Reactant)

(**electroluminescent** materials based on compds. including substituents with internal rotation isomers and rare earth complex-based fluorescent materials and **electroluminescent** elements and color conversion filters)

IT 49610-33-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)

(**electroluminescent** materials based on compds. including substituents with internal rotation isomers and rare earth complex-based fluorescent materials and **electroluminescent** elements and color conversion filters)

IT 12254-04-5, Barium magnesium aluminate (BaMgAl10O17) 13566-12-6, Yttrium vanadate (YVO₄)

RL: DEV (Device component use); USES (Uses)

(europium-activated; **electroluminescent** materials based on compds. including substituents with internal rotation isomers and rare earth complex-based fluorescent materials and **electroluminescent** elements and color conversion filters)

IT 13778-49-9P, Barium silicate (Ba₂SiO₄)

RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

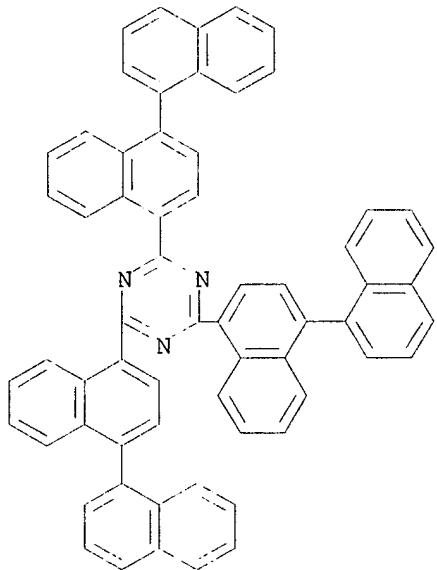
(europium-activated; **electroluminescent** materials based on compds.. including substituents with internal rotation isomers and rare earth complex-based fluorescent materials and **electroluminescent** elements and color conversion filters)

IT 7440-53-1P, Europium, uses 16910-54-6P, Europium +2, uses

RL: DEV (Device component use); IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)

(phosphors activated by; **electroluminescent** materials based on compds. including substituents with internal rotation isomers and

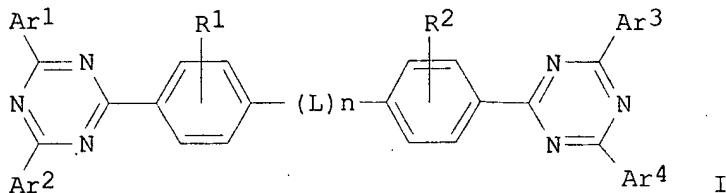
rare earth complex-based fluorescent materials and
electroluminescent elements and color conversion filters)
IT 22541-18-0, Europium +3, uses
RL: DEV (Device component use); MOA (Modifier or additive use); USES
(Uses)
(phosphors activated by; **electroluminescent** materials based
on compds. including substituents with internal rotation isomers and
rare earth complex-based fluorescent materials and
electroluminescent elements and color conversion filters)
IT 278610-92-7
RL: DEV (Device component use); USES (Uses)
(**electroluminescent** materials based on compds. including
substituents with internal rotation isomers and rare earth
complex-based fluorescent materials and **electroluminescent**
elements and color conversion filters)
RN 278610-92-7 HCPLUS
CN 1,3,5-Triazine, 2,4,6-tris([1,1'-binaphthalen]-4-yl)- (9CI) (CA INDEX
NAME)



L11 ANSWER 6 OF 15 HCPLUS COPYRIGHT 2002 ACS
AN 2000:283952 HCPLUS
DN 132:327508
TI **Electroluminescent (EL) devices**
IN Hu, Nan-xing; Esteghamatian, Mohammad; Qi, Yu; Popovic, Zoran D.; Ong,
Beng S.; Hor, Ah-mee
PA Xerox Corp., USA
SO U.S., 31 pp.
CODEN:—USXXAM—
DT Patent
LA English
IC ICM H05B033-14
NCL 428690000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related
Properties)
Section cross-reference(s): 28, 76

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6057048	A	20000502	US 1998-164753	19981001
	US 6229012	B1	20010508	US 2000-489527	20000121
PRAI	US 1998-164753	A2	19981001		
OS	MARPAT 132:327508				
GI					



AB **Electroluminescent devices** comprising an anode, a hole transporting layer, a light emitting layer, and a cathode are described in which the light emitting layer contains a component described by the general formula I ($\text{Ar1-4} =$ independently selected aryl or aliph. groups; R1 and R2 = independently selected from hydrogen, aliph., halogen, and cyano; L = a conjugated bivalent linking group; and n = 0-3); the compds. may serve as hosts for selected fluorescent dyes.

ST triazine deriv **electroluminescent device**

IT Electroluminescent devices

Semiconductor electroluminescent devices

IT 91-64-5, Coumarin 12798-95-7 37271-44-6 58328-31-7 123847-85-8
266349-86-4 266349-87-5 266349-88-6
266349-89-7 266349-92-2 266349-93-3
266349-94-4 266349-95-5 266349-96-6
266349-97-7 266349-98-8 266349-99-9 266350-00-9
266350-01-0

Z66350-01-0
RL: DEV (Device component use); USES (Uses)
 (electroluminescent devices using triazine derivs.)
IT 198-55-0, Perylene 517-51-1, Rubrene 1499-10-1, 9,10-
Diphenylanthracene. 2085-33-8, Tris(8-hydroxyquinolinato)aluminum
16043-42-8 19205-19-7, N,N'-Dimethylquinacridone 222402-84-8
266349-59-1 266349-61-5 266349-63-7

IT 6888-33-1P 266349-83-1P 266349-84-2P

266349-85-3P 266349-90-0P 266349-91-1P
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(electroluminescent devices using triazine derivs.)
IT 95-50-1, 1,2-Dichlorobenzene—100-47-0, Benzonitrile, reactions

104-85-8, p-Tolunitrile 620-22-4 2351-37-3, 4,4'-Biphenyldicarbonyl
chloride 7704-34-9, Sulfur, reactions 16107-88-3
RL: RCT (Reactant)

(electroluminescent devices using triazine derivs.)

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

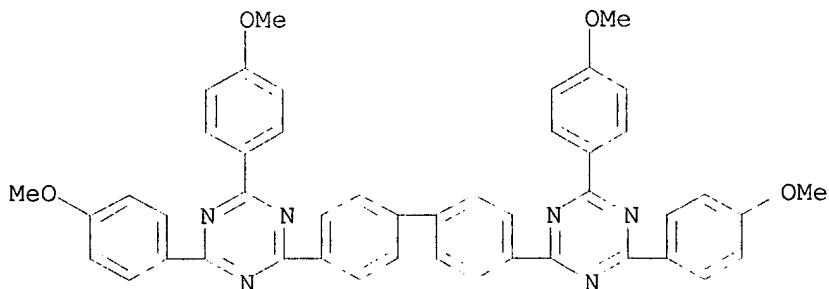
(1) Fink; Makromol Symp 1997, V125, P151

- (2) Matsuura; US 5516577 1996 HCAPLUS
 (3) Mehl; US 3530325 1970 HCAPLUS
 (4) Namiki; US 5429884 1995 HCAPLUS
 (5) Tang; US 4356429 1982 HCAPLUS
 (6) Tang; US 4769292 1988 HCAPLUS
 (7) Tang; US 4885211 1989 HCAPLUS
 (8) Tang; US 5409783 1995 HCAPLUS
 (9) VanSlyke; US 4539507 1985
 (10) VanSlyke; US 4720432 1988 HCAPLUS
 (11) VanSlyke; US 5151629 1992 HCAPLUS
 (12) Van Slyke; US 5150006 1992 HCAPLUS
 IT 266349-86-4 266349-87-5 266349-88-6
 266349-89-7 266349-92-2 266349-93-3
 266349-94-4 266349-95-5 266349-96-6
 266349-97-7 266349-98-8

RL: DEV (Device component use); USES (Uses)
 (electroluminescent devices using triazine derivs.)

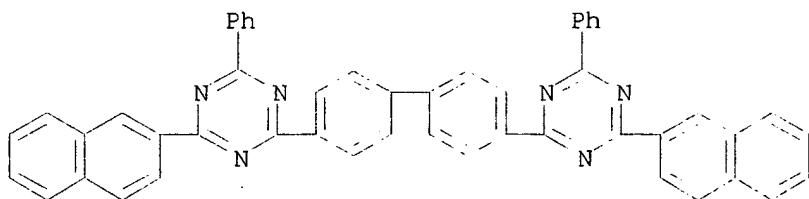
RN 266349-86-4 HCAPLUS

CN 1,3,5-Triazine, 2,2'-[1,1'-biphenyl]-4,4'-diylbis[4,6-bis(4-methoxyphenyl)-
 (9CI) (CA INDEX NAME)



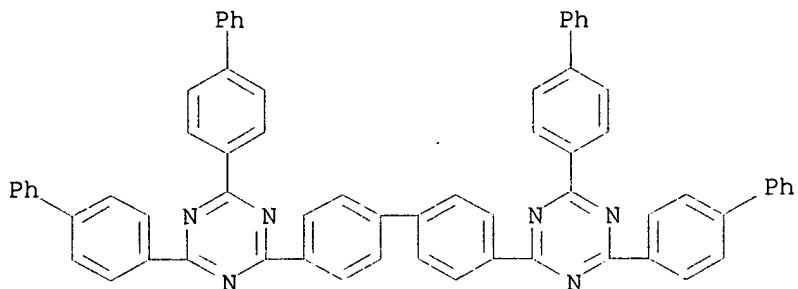
RN 266349-87-5 HCAPLUS

CN 1,3,5-Triazine, 2,2'-[1,1'-biphenyl]-4,4'-diylbis[4-(2-naphthalenyl)-6-phenyl- (9CI) (CA INDEX NAME)



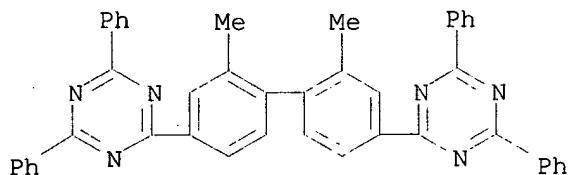
RN 266349-88-6 HCAPLUS

CN 1,3,5-Triazine, 2,2'-[1,1'-biphenyl]-4,4'-diylbis[4,6-bis[1,1'-biphenyl]-4-yl- (9CI) (CA INDEX NAME)



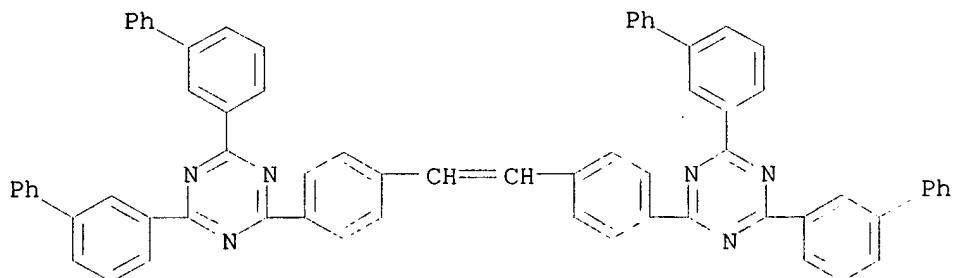
RN 266349-89-7 HCAPLUS

CN 1,3,5-Triazine, 2,2'-(2,2'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis[4,6-diphenyl- (9CI) (CA INDEX NAME)]



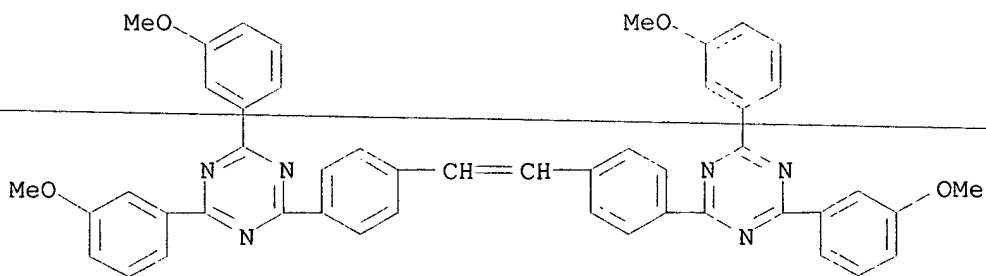
RN 266349-92-2 HCAPLUS

CN 1,3,5-Triazine, 2,2'-(1,2-ethenediyldi-4,1-phenylene)bis[4,6-bis([1,1'-biphenyl]-3-yl)- (9CI) (CA INDEX NAME)]

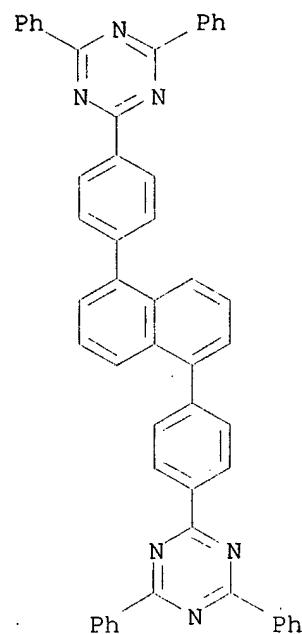


RN 266349-93-3 HCAPLUS

CN 1,3,5-Triazine, 2,2'-(1,2-ethenediyldi-4,1-phenylene)bis[4,6-bis(3-methoxyphenyl)- (9CI) (CA INDEX NAME)]

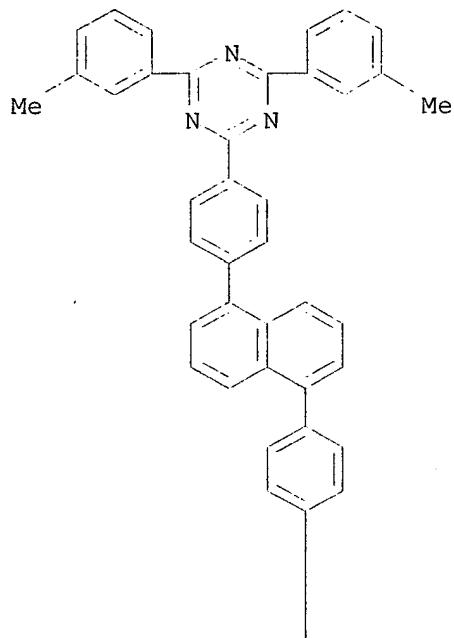


RN 266349-94-4 HCAPLUS
CN 1,3,5-Triazine, 2,2'-(1,5-naphthalenediyldi-4,1-phenylene)bis[4,6-diphenyl-
(9CI) (CA INDEX NAME)

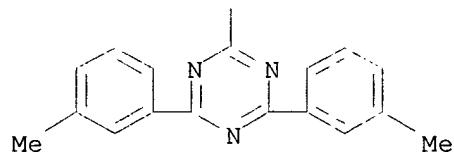


RN 266349-95-5 HCAPLUS
CN 1,3,5-Triazine, 2,2'-(1,5-naphthalenediyldi-4,1-phenylene)bis[4,6-bis(3-methylphenyl)-] (9CI) (CA INDEX NAME)

PAGE 1-A

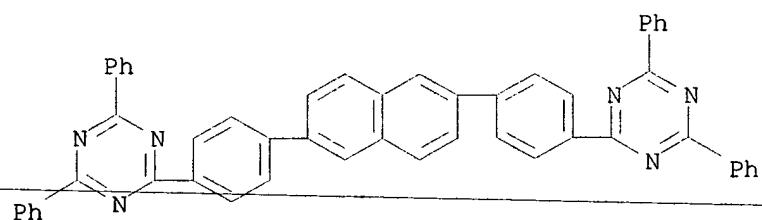


PAGE 2-A



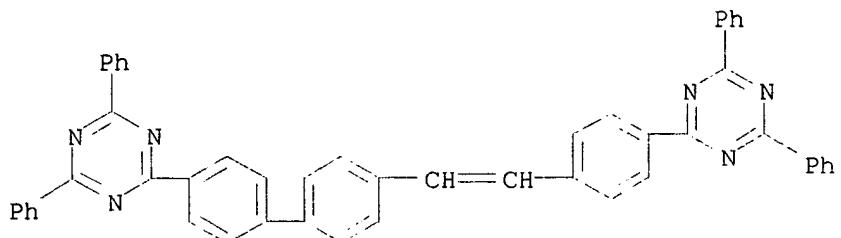
RN 266349-96-6 HCAPLUS

CN 1,3,5-Triazine, 2,2'-(2,6-naphthalenediyldi-4,1-phenylene)bis[4,6-diphenyl- (9CI) (CA INDEX NAME)



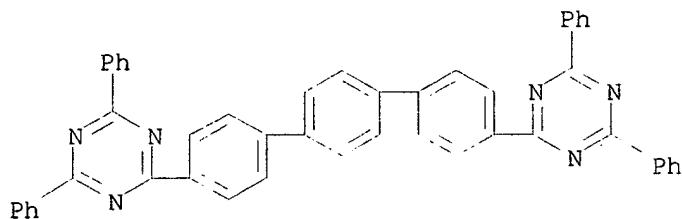
RN 266349-97-7 HCAPLUS

CN 1,3,5-Triazine, 4-[4-[2-[4'-(4,6-diphenyl-1,3,5-triazin-2-yl)[1,1'-biphenyl]-4-yl]ethenyl]phenyl]-2,6-diphenyl- (9CI) (CA INDEX NAME)



RN 266349-98-8 HCAPLUS

CN 1,3,5-Triazine, 2,2'-(1,1':4',1''-terphenyl)-4,4''-diylbis[4,6-diphenyl- (9CI) (CA INDEX NAME)]



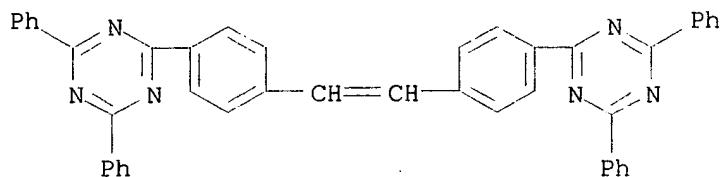
IT 6888-33-1P 266349-83-1P 266349-84-2P

266349-85-3P 266349-90-0P 266349-91-1P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(electroluminescent devices using triazine derivs.)

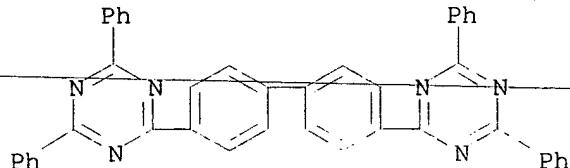
RN 6888-33-1 HCAPLUS

CN 1,3,5-Triazine, 2,2'-(1,2-ethenediyldi-4,1-phenylene)bis[4,6-diphenyl- (9CI) (CA INDEX NAME)]



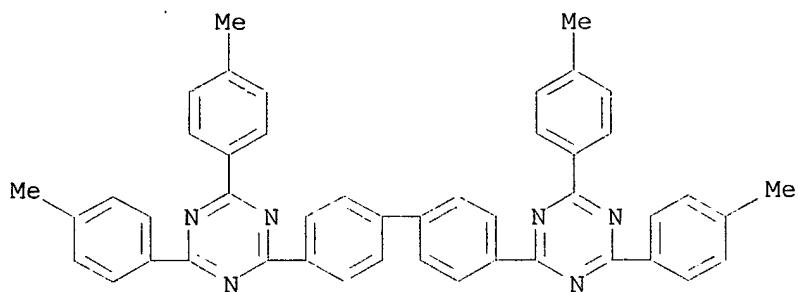
RN 266349-83-1 HCAPLUS

CN 1,3,5-Triazine, 2,2'-(1,1'-biphenyl)-4,4''-diylbis[4,6-diphenyl- (9CI) (CA INDEX NAME)]

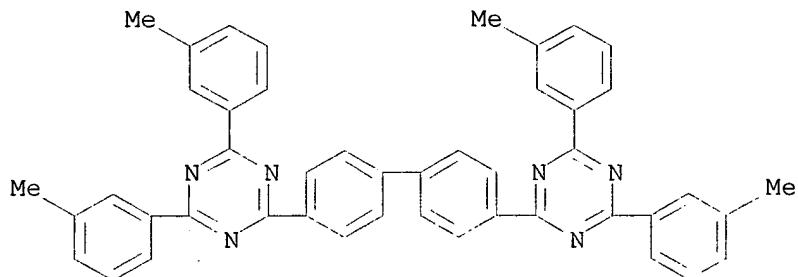


RN 266349-84-2 HCAPLUS

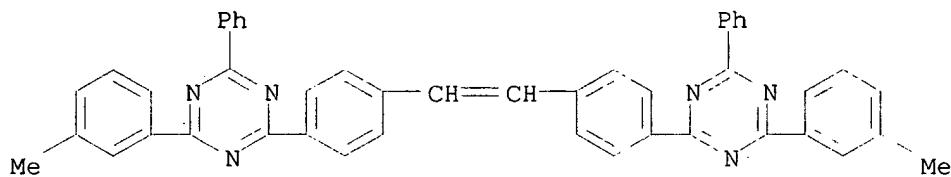
CN 1,3,5-Triazine, 2,2'-(1,1'-biphenyl)-4,4''-diylbis[4,6-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)]



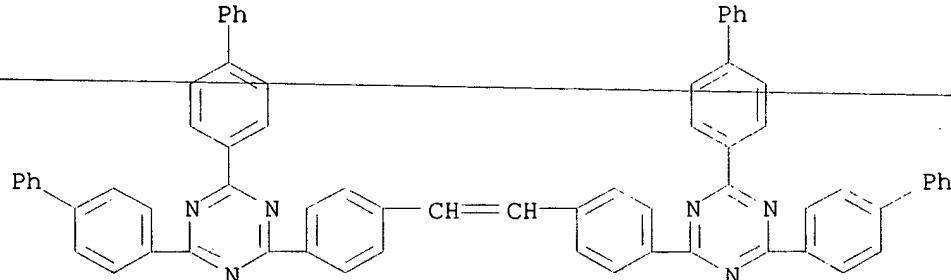
RN 266349-85-3 HCAPLUS

CN 1,3,5-Triazine, 2,2'-(1,1'-biphenyl)-4,4'-diylbis[4,6-bis(3-methylphenyl)-
(9CI) (CA INDEX NAME)

RN 266349-90-0 HCAPLUS

CN 1,3,5-Triazine, 2,2'-(1,2-ethenediyldi-4,1-phenylene)bis[4-(3-methylphenyl)-6-phenyl-
(9CI) (CA INDEX NAME)

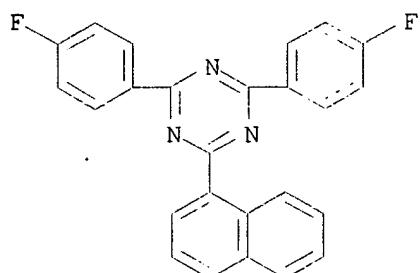
RN 266349-91-1 HCAPLUS

CN 1,3,5-Triazine, 2,2'-(1,2-ethenediyldi-4,1-phenylene)bis[4,6-bis([1,1'-biphenyl]-4-yl)-
(9CI) (CA INDEX NAME)

L11 ANSWER 7 OF 15 HCAPLUS COPYRIGHT 2002 ACS
 AN 1998:183954 HCAPLUS
 DN 128:244520
 TI Triazine polymers and their use in **electroluminescent**
 arrangements
 IN Wehrmann, Rolf; Schmidt, Hans-Werner; Fink, Ralph; Thelakkat, Mukundan
 PA Bayer A.-G., Germany; Wehrmann, Rolf; Schmidt, Hans-Werner; Fink, Ralph;
 Thelakkat, Mukundan
 SO PCT Int. Appl., 55 pp.
 CODEN: PIXXD2
 DT Patent
 LA German
 IC ICM C08G073-06
 ICS C08G073-10; C09K011-06
 CC 35-5 (Chemistry of Synthetic High Polymers)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9811150	A1	19980319	WO 1997-EP4802	19970904
	W: JP, KR, US RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE DE 19644930	A1	19980319	DE 1996-19644930	19961029
	EP 925319	A1	19990630	EP 1997-943830	19970904
	EP 925319	B1	20011205	R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE, PT, IE, FI JP 2001503077	19970904
	JP 2001503077	T2	20010306	JP 1998-513219	19970904
	AT 210163	E	20011215	AT 1997-943830	19970904
	KR 2000036127	A	20000626	KR 1999-7002161	19990315
PRAI	DE 1996-19637600	A	19960916		
	DE 1996-19644930	A	19961029		
	WO 1997-EP4802	W	19970904		
AB	Triazine-based polyethers and polyimides suitable for use in electroluminescent devices are prep'd. from dihalo s-triazines or s-triazine diamines and bisphenols or arom. dianhydrides. Thus, 2,4-bis(4-fluorophenyl)-6-phenyl-s-triazine was treated with bisphenol AF in the presence of potassium carbonate to give a copolymer having no.-av. mol. wt. 26 .times. 103 and glass transition temp. 241.degree.. A polyether prep'd. from bisphenol AF and 2,4-bis(4-fluorophenyl)-6-(3-quinolyl)-s-triazine was used in the fabrication of a light emitting diode composed of indium-tin oxide, poly(p-phenylenevinylene), polyether and aluminum. The diode displayed onset voltage 4 V, PMmax 4 .times. 10 ⁻⁶ , and Imax 50, vs. 4 V, 5 .times. 10 ⁻¹⁰ , and 300, resp., for a diode prep'd. with the polyether layer.				
ST	triazine based fluorine contg polymer; polyether triazine based fluorine contg; polyimide triazine based fluorine contg; light emitting diode triazine based polymer; electroluminescent device triazine based polymer				
IT	Polyethers, preparation Polyimides, preparation RL: SPN (Synthetic preparation); PREP (Preparation) <u>(fluorine- and triazine-group-contg.; triazine polymers for use in electroluminescent arrangement)</u>				
IT	Polymerization (of triazine derivs. with bisphenols and arom. dianhydrides)				
IT	Fluoropolymers, preparation RL: SPN (Synthetic preparation); PREP (Preparation) <u>(polyether-, triazine group-contg.; triazine polymers for use in electroluminescent arrangement)</u>				

- IT Fluoropolymers, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(polyimide-, triazine group-contg.; triazine polymers for use in
electroluminescent arrangement)
- IT Electroluminescent devices
(triazine polymers for use in)
- IT 188788-80-9P
RL: DEV (Device component use); SPN (Synthetic preparation); PREP
(Preparation); USES (Uses)
(in prepn. of triazine polymers for use in **electroluminescent**
arrangements)
- IT 90-30-2P, N-(1-Naphthyl)-aniline 351-98-4P 22961-45-1P,
N-(4-Pyridyl)-aniline
RL: SPN (Synthetic preparation); PREP (Preparation)
(in prepn. of triazine polymers for use in **electroluminescent**
arrangements)
- IT 456-14-4P, 4-Fluorobenzamidine hydrochloride
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(intermediate; in prepn. of triazine polymers for use in
electroluminescent arrangements)
- IT 31207-01-9P 157141-82-7P, 2,4-Bis(4-fluorophenyl)-6-phenyl-s-triazine
188788-62-7P 188788-67-2P 188788-74-1P 188788-78-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(monomer; for prepn. of triazine polymers for use in
electroluminescent arrangements)
- IT 62-53-3, Benzenamine, reactions 538-51-2, N-Benzylideneaniline
1194-02-1, 4-Fluorobenzonitrile 3459-99-2, 3-Nitrobenzamidine
RL: RCT (Reactant)
(reactant; in prepn. of triazine polymers for use in
electroluminescent arrangements)
- IT 188788-79-6P
RL: DEV (Device component use); SPN (Synthetic preparation); PREP
(Preparation); USES (Uses)
(triazine polymers for use in **electroluminescent**
arrangements)
- IT 188788-56-9P 188788-60-5P 188788-63-8P 188788-65-0P
188788-68-3P 188788-70-7P 188788-75-2P 188788-77-4P 204910-08-7P
204910-09-8P 204910-10-1P 204910-11-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(triazine polymers for use in **electroluminescent**
arrangements)
- IT 188788-62-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(monomer; for prepn. of triazine polymers for use in
electroluminescent arrangements)
- RN 188788-62-7 HCPLUS
- CN 1,3,5-Triazine, 2,4-bis(4-fluorophenyl)-6-(1-naphthalenyl)- (9CI) (CA
INDEX NAME)



IT 188788-63-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (triazine polymers for use in **electroluminescent**
 arrangements)

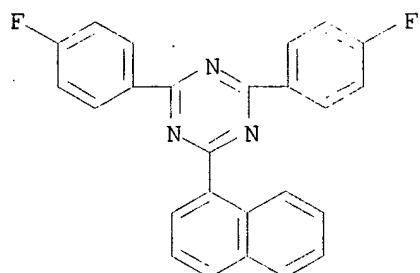
RN 188788-63-8 HCPLUS

CN Phenol, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer
 with 2,4-bis(4-fluorophenyl)-6-(1-naphthalenyl)-1,3,5-triazine (9CI) (CA
 INDEX NAME)

CM 1

CRN 188788-62-7

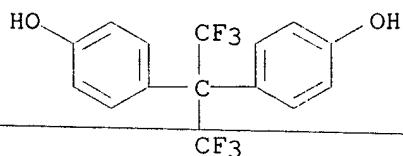
CMF C25 H15 F2 N3



CM 2

CRN 1478-61-1

CMF C15 H10 F6 O2



L11 ANSWER 8 OF 15 HCPLUS COPYRIGHT 2002 ACS

AN 1998:90698 HCPLUS

DN 128:186037

TI Aromatic ethers with 1,3,5-triazine units as hole blocking/

electron transport materials in LEDs

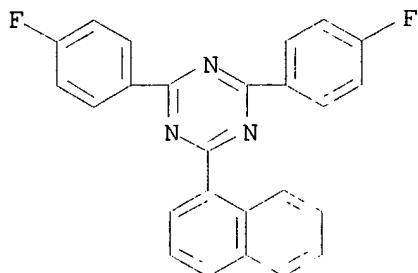
AU Fink, Ralf; Frenz, Carsten; Thelakkat, Mukundan; Schmidt, Hans-Werner
 CS Makromolekulare Chemie I, Bayreuther Institut Makromolekulforschung,
 Universitat Bayreuth, Bayreuth, 95440, Germany
 SO Proc. SPIE-Int. Soc. Opt. Eng. (1997), 3148(Organic Light-Emitting
 Materials and Devices), 194-200
 CODEN: PSISDG; ISSN: 0277-786X
 PB SPIE-The International Society for Optical Engineering
 DT Journal
 LA English
 CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related
 Properties)
 Section cross-reference(s): 38, 76
 AB Various fluoro-functionalized arom. 1,3,5-triazine monomers were prep'd. A
 series low molar mass and poly-(1,3,5-triazine)-ethers were synthesized by
 a condensation reaction. The polymers as well as the low molar mass
 compds. have excellent thermal stability and are amorphous. To examine
 the potential to apply these compds. in org. **electroluminescent**
 devices, the redox properties were studied by cyclic voltammetry. The
 monomers have high electron affinity and reach LUMO values at -2.7 to -3.1
 eV. Addnl. high oxidn. stability with HOMO values <-6.4 eV follows hole
 blocking capabilities. This opens the possibility to use 1,3,5-triazine
 contg. materials as electron injecting/hole blocking layer in LEDs. First
 LED results are in agreement to these high electron affinities.
 ST arom ether triazine hole blocking LED
 IT **Electroluminescent** devices
 (arom. ethers with triazine units as hole blocking/**electron**
 transport materials in)
 IT Electrochemical redox reaction
 (arom. ethers with triazine units as hole blocking/**electron**
 transport materials in LEDs)
 IT Polymers, properties
 RL: DEV (Device component use); PRP (Properties); USES (Uses)
 (arom. ethers with triazine units as hole blocking/**electron**
 transport materials in LEDs)
 IT Electric transport properties
 (arom. ethers with triazine units in LEDs for)
 IT Hole (**electron**)
 (arom. ethers with triazine units in LEDs for blocking)
 IT Ethers, properties
 RL: DEV (Device component use); PRP (Properties); USES (Uses)
 (arom. ethers; with triazine units as hole blocking/**electron**
 transport materials in LEDs)
 IT Aromatic hydrocarbons, properties
 RL: DEV (Device component use); PRP (Properties); USES (Uses)
 (ethers; with triazine units as hole blocking/**electron**
 transport materials in LEDs)
 IT 157141-82-7 184895-07-6 188788-60-5 **188788-62-7**
 188788-65-0 188788-78-5 188788-80-9 203450-08-2 203450-09-3
 203450-10-6
 RL: DEV (Device component use); PRP (Properties); USES (Uses)
 (hole blocking/**electron** **transport** materials in
 LEDs)
 IT 618-39-3, Benzamidine 2339-59-5, 4-Fluorobenzamidine
 RL: RCT (Reactant)
 (reaction with anilidene derivs.)
 IT 538-51-2 890-50-6 5676-81-3 13213-06-4
 RL: RCT (Reactant)
 (reaction with benzamidine derivs.)
 IT 1478-61-1

RL: RCT (Reactant)
 (reaction with triazine units)

IT 188788-62-7
 RL: DEV (Device component use); PRP (Properties); USES (Uses)
 (hole blocking/electron transport materials in
 LEDs)

RN 188788-62-7 HCAPLUS

CN 1,3,5-Triazine, 2,4-bis(4-fluorophenyl)-6-(1-naphthalenyl)- (9CI) (CA
 INDEX NAME)



L11 ANSWER 9 OF 15 HCAPLUS COPYRIGHT 2002 ACS
 AN 1997:805966 HCAPLUS
 DN 128:3895
 TI Synthesis and Characterization of Aromatic Poly(1,3,5-triazine-ether)s for
Electroluminescent Devices
 AU Fink, Ralf; Frenz, Carsten; Thelakkat, Mukundan; Schmidt, Hans-Werner
 CS Makromolekulare Chemie I and Bayreuther Institut fuer
 Makromolekulforschung (BIMF), Universitaet Bayreuth, Bayreuth, 95440,
 Germany
 SO Macromolecules (1997), 30(26), 8177-8181
 CODEN: MAMOBX; ISSN: 0024-9297
 PB American Chemical Society
 DT Journal
 LA English
 CC 35-2 (Chemistry of Synthetic High Polymers)
 AB Various difluoro functionalized arom. 1,3,5-triazine monomers were prep'd.
 A series of poly(1,3,5-triazine-ether)s was synthesized by
 polycondensation with 4,4'-hexafluoroisopropylidenebis[phenol]. The
 polymers have excellent thermal stability and are amorphous with glass
 transition temps. in the range 190-250.degree.. In order to examine the
 potential application these polymers may possess for use in org.
electroluminescent devices, the redox properties were studied by
 cyclic voltammetry. The monomers have high electron affinities and reach
 LUMO values in the range of -2.7 to -3.1 eV. This opens the possibility
 to utilize 1,3,5-triazine-contg. materials as electron injecting/hole
 blocking layers in light emitting devices (LEDs).
 Initial LED results are in accordance with these high electron affinities.
 ST difluoro triazine monomer prep'n polymn
 IT Polyethers, preparation
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (fluorine- and triazine group-contg.; synthesis and characterization of
 arom. poly(1,3,5-triazine-ethers) for use in multilayer light
 emitting devices)
 IT Polymerization
 (of arom. difluoro triazine derivs. with hexafluoroisopropylidenebisphenoⁿ)

IT Fluoropolymers, preparation
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (polyether-, triazine group-contg.; synthesis and characterization of
 arom. poly(1,3,5-triazine-ethers) for use in multilayer light
 emitting devices)

IT Electroluminescent devices
 (synthesis and characterization of arom. poly(1,3,5-triazine-ethers)
 for use in multilayer light emitting devices)

IT 4278-01-7P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (intermediate; in synthesis of difluoro arom. triazine monomers for
 prepn. of polymers as hole blocking/electron
 transport layers for use in multilayer light
 emitting devices)

IT 157141-82-7P 188788-62-7P 188788-67-2P 188788-74-1P
 188788-78-5P
 RL: PEP (Physical, engineering or chemical process); RCT (Reactant); SPN
 (Synthetic preparation); PREP (Preparation); PROC (Process)
 (monomer; for prepn. of polymers as hole blocking/electron
 transport layers for use in multilayer light
 emitting devices)

IT 62-53-3, Benzenamine, reactions 64-17-5, Ethanol, reactions 66-77-3,
 1-Naphthaldehyde 455-19-6, 4-(Trifluoromethyl)benzaldehyde 872-85-5,
 4-Pyridinecarboxaldehyde 1194-02-1, 4-Fluorobenzonitrile 4363-93-3,
 4-Formylquinoline
 RL: RCT (Reactant)
 (reactant; in synthesis of difluoro arom. triazine monomers for prepn.
 of polymers as hole blocking/electron transport
 layers for use in multilayer light emitting
 devices)

IT 456-14-4P, 4-Fluorobenzamidine hydrochloride 13213-06-4P 27768-46-3P
 79128-83-9P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (reactant; in synthesis of difluoro arom. triazine monomers for prepn.
 of polymers as hole blocking/electron transport
 layers for use in multilayer light emitting
 devices)

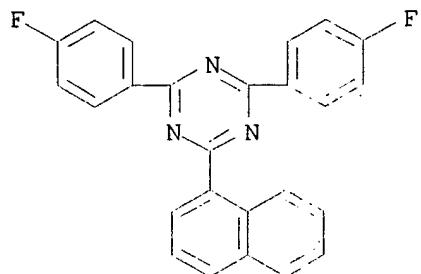
IT 100-52-7, Benzaldehyde, reactions
 RL: RCT (Reactant)
 (reactant; in synthesis of difluoro arom. triazine monomers for
 synthesis of polymers as hole blocking/electron
 transport layers for use in multilayer light
 emitting devices)

IT 188788-56-9P 188788-60-5P 188788-63-8P 188788-65-0P
 188788-68-3P 188788-70-7P 188788-75-2P 188788-77-4P 188788-79-6P
 188788-80-9P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (synthesis and characterization of arom. poly(1,3,5-triazine-ethers)
 for use in multilayer light emitting devices)

IT 188788-62-7P
 RL: PEP (Physical, engineering or chemical process); RCT (Reactant); SPN
(Synthetic preparation); PREP (Preparation); PROC (Process)
 (monomer; for prepn. of polymers as hole blocking/electron
 transport layers for use in multilayer light
 emitting devices)

RN 188788-62-7 HCAPLUS

CN 1,3,5-Triazine, 2,4-bis(4-fluorophenyl)-6-(1-naphthalenyl)- (9CI) (CA
 INDEX NAME)



IT 188788-63-8P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (synthesis and characterization of arom. poly(1,3,5-triazine-ethers)
 for use in multilayer light emitting devices)

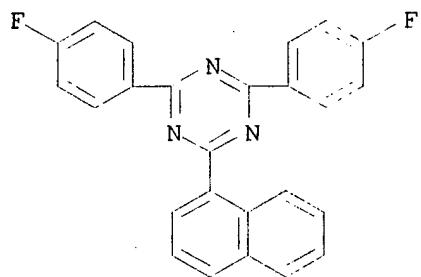
RN 188788-63-8 HCPLUS

CN Phenol, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer
 with 2,4-bis(4-fluorophenyl)-6-(1-naphthalenyl)-1,3,5-triazine (9CI) (CA
 INDEX NAME)

CM 1

CRN 188788-62-7

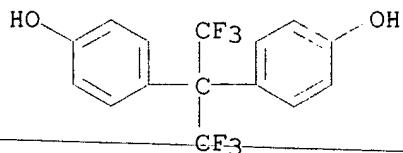
CMF C25 H15 F2 N3



CM 2

CRN 1478-61-1

CMF C15 H10 F6 O2



L11 ANSWER 10 OF 15 HCPLUS COPYRIGHT 2002 ACS

AN 1997:760090 HCPLUS

DN 128:62207

TI Aromatic polyethers with 1,3,5-triazine units as hole blocking/
 electron transport materials in LEDs

AU Fink, Ralf; Frenz, Carsten; Thelakkat, Mukundan; Schmidt, Hans Werner
CS Bayreuther Inst. Makromolekulforschung, Univ. Bayreuth, Bayreuth,
D-95440, Germany
SO Macromol. Symp. (1998), 125(Organic Light-Emitting Materials and Devices),
151-155
CODEN: MSYMEC; ISSN: 1022-1360
PB Huethig & Wepf Verlag
DT Journal
LA English
CC 37-5 (Plastics Manufacture and Processing)
Section cross-reference(s): 73
AB Various difluoro-functionalized arom. 1,3,5-triazine monomers were prepd.
A series of poly-(1,3,5-triazine-ether)s was synthesized by
polycondensation with 4,4'-(hexafluoroisopropylidene)diphenol. The
polymers have excellent thermal stability and are amorphous with glass
transition temps. of 190-250.degree.. In order to examine the potential
to apply these polymers in org. **electroluminescent** devices, the
redox properties were studied by cyclic voltammetry. It was found that
the monomers have high electron affinity and reach LUMO values in the
range of -2.7 to -3.1 eV. This opens the possibility to utilize
1,3,5-triazine-contg. materials as electron injecting/hole blocking layer
in LEDs. First LED results are in accordance to these high electron
affinities.
ST triazine monomer electron affinity polymer LED; polytriazine polyether
electron transport LED
IT Polyethers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polycyanurate-, fluorine-contg.; prepn. and properties of triazine
monomers and copolymers usable as electron injection material for LEDs)
IT Polycyanurates
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-, fluorine-contg.; prepn. and properties of triazine
monomers and copolymers usable as electron injection material for LEDs)
IT Fluoropolymers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyether-polycyanurate-; prepn. and properties of triazine monomers
and copolymers usable as electron injection material for LEDs)
IT Poly(arylenealkenylenes)
RL: DEV (Device component use); USES (Uses)
(polyphenylenevinylenes, LED layer; prepn. and properties of triazine
monomers and copolymers usable as electron injection material for LEDs)
IT **Electroluminescent** devices
Electron affinity
HOMO (molecular orbital)
LUMO (molecular orbital)
(prepn. and properties of triazine monomers and copolymers usable as
electron injection material for LEDs)
IT Monomers
RL: PRP (Properties); RCT (Reactant)
(prepn. and properties of triazine monomers and copolymers usable as
electron injection material for LEDs)
IT 26009-24-5, Poly(p-phenylenevinylene)
RL: DEV (Device component use); USES (Uses)
(LED layer; prepn. and properties of triazine monomers and copolymers
usable as electron injection material for LEDs)
IT 50926-11-9, ITO
RL: DEV (Device component use); USES (Uses)
(prepn. and properties of triazine monomers and copolymers usable as
electron injection material for LEDs)
IT 188788-79-6P 188788-80-9P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (prepn. and properties of triazine monomers and copolymers usable as electron injection material for LEDs)

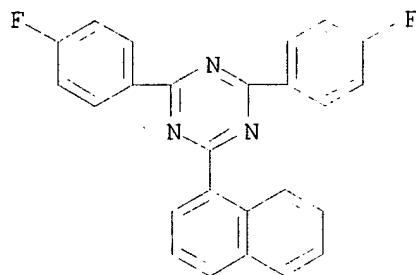
IT 157141-82-7 188788-62-7 188788-67-2 188788-74-1
 188788-78-5
 RL: PRP (Properties); RCT (Reactant)
 (prepn. and properties of triazine monomers and copolymers usable as electron injection material for LEDs)

IT 188788-56-9P 188788-60-5P 188788-63-8P 188788-65-0P
 188788-68-3P 188788-70-7P 188788-75-2P 188788-77-4P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and properties of triazine monomers and copolymers usable as electron injection material for LEDs)

IT 188788-62-7
 RL: PRP (Properties); RCT (Reactant)
 (prepn. and properties of triazine monomers and copolymers usable as electron injection material for LEDs)

RN 188788-62-7 HCAPLUS

CN 1,3,5-Triazine, 2,4-bis(4-fluorophenyl)-6-(1-naphthalenyl)- (9CI) (CA INDEX NAME)



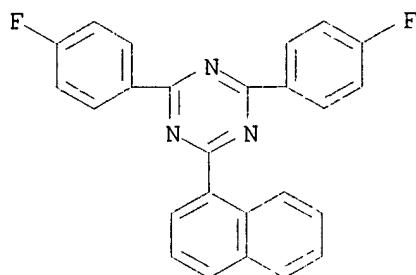
IT 188788-63-8P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and properties of triazine monomers and copolymers usable as electron injection material for LEDs)

RN 188788-63-8 HCAPLUS

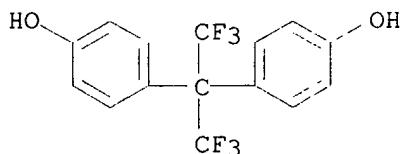
CN Phenol, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with 2,4-bis(4-fluorophenyl)-6-(1-naphthalenyl)-1,3,5-triazine (9CI) (CA INDEX NAME)

CM 1

CRN 188788-62-7
CMF C25 H15 F2 N3



CM 2

CRN 1478-61-1
CMF C15 H10 F6 O2

L11 ANSWER 11 OF 15 HCPLUS COPYRIGHT 2002 ACS
 AN 1997:224262 HCPLUS
 DN 126:264549
 TI Aromatic polyethers with 1,3,5-triazine units as hole blocking/
electron transport materials in LEDs
 AU Fink, Ralf; Frenz, Carsten; Thelakkat, Mukundan; Schmidt, Hans-Werner
 CS Makromolekulare Chemie I, Universitaet Bayreuth, Bayreuth, 95440, Germany
 SO Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.) (1997), 38(1), 323-324
 CODEN: ACPPAY; ISSN: 0032-3934
 PB American Chemical Society, Division of Polymer Chemistry
 DT Journal
 LA English
 CC 36-5 (Physical Properties of Synthetic High Polymers)
 Section cross-reference(s): 35, 76
 AB Asym. substituted bifunctional triazine monomers were prep'd. by reaction
 of aniline derivs. and 4-fluorobenzamidine. Polyethers contg. the
 bifunctional triazine units were prep'd. by condensation with
 hexafluoro-bisphenol-A; the polymers show good thermal stability up to
 430.degree.. The polymers exhibit low redn. potentials due to high
 electron affinity, compared to that of other hole blocking/
electron transporting materials such as oxadiazoles.
 The lower redn. potential and the higher oxidn. potential results in a
decreased barrier for electron injection and increased barrier for holes.
 A two-layer LED device fabricated with an s-triazine-polyether as
electron transport layer and PPV as hole-transport layer
 and EML, demonstrated the hole blocking/electron injection activity of the
 s-triazine polyether.
 ST polyether triazine electron injection LED; light
emitting diode polyether triazine PPV
 IT Polyethers, properties
 RL: DEV (Device component use); PRP (Properties); SPN (Synthetic)

preparation); PREP (Preparation); USES (Uses)
 (arom., fluorine-contg., polytriazine; prepn. and redox potential and
 LEDs of arom. poly(triazine-ethers) as hole blocking/electron
 transport layer)

IT Fluoropolymers, properties
 RL: DEV (Device component use); PRP (Properties); SPN (Synthetic
 preparation); PREP (Preparation); USES (Uses)
 (polyether-, arom., polytriazine; prepn. and redox potential and LEDs
 of arom. poly(triazine-ethers) as hole blocking/electron
 transport layer)

IT Electroluminescent devices
 Electron mobility
 Hole mobility
 Oxidation potential
 Reduction potential
 Thermal decomposition enthalpy
 (prepn. and redox potential and LEDs of arom. poly(triazine-ethers) as
 hole blocking/electron transport layer)

IT Poly(arylenealkenylenes)
 RL: DEV (Device component use); PRP (Properties); SPN (Synthetic
 preparation); PREP (Preparation); USES (Uses)
 (prepn. and redox potential and LEDs of arom. poly(triazine-ethers) as
 hole blocking/electron transport layer)

IT 50926-11-9P, ITO 96638-49-2P, Poly(phenylene vinylene) 188788-56-9P
 188788-60-5P 188788-63-8P 188788-65-0P 188788-68-3P
 188788-70-7P 188788-75-2P 188788-77-4P 188788-79-6P 188788-80-9P
 RL: DEV (Device component use); PRP (Properties); SPN (Synthetic
 preparation); PREP (Preparation); USES (Uses)
 (prepn. and redox potential and LEDs of arom. poly(triazine-ethers) as
 hole blocking/electron transport layer)

IT 188788-63-8P
 RL: DEV (Device component use); PRP (Properties); SPN (Synthetic
 preparation); PREP (Preparation); USES (Uses)
 (prepn. and redox potential and LEDs of arom. poly(triazine-ethers) as
 hole blocking/electron transport layer)

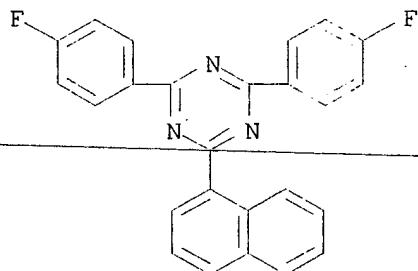
RN 188788-63-8 HCPLUS

CN Phenol, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer
 with 2,4-bis(4-fluorophenyl)-6-(1-naphthalenyl)-1,3,5-triazine (9CI) (CA
 INDEX NAME)

CM 1

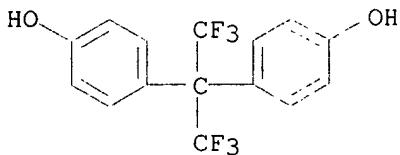
CRN 188788-62-7

CMF C25 H15 F2 N3



CM 2

CRN 1478-61-1
 CMF C15 H10 F6 O2



L11 ANSWER 12 OF 15 HCPLUS COPYRIGHT 2002 ACS
 AN 1996:659262 HCPLUS
 DN 125:288838
 TI Sensitized photopolymerizable compositions for manufacture of lithographic plates
 IN West, Paul Richard; Gurney, Jeffery Allen
 PA Eastman Kodak Company, USA
 SO Eur. Pat. Appl., 29 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 IC ICM G03F007-031
 ICS C08F002-50
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 730201	A1	19960904	EP 1996-200485	19960226
	EP 730201	B1	20010509		
	R: BE, DE, FR, GB, IT, NL				
	US 5629354	A	19970513	US 1995-395352	19950228
	JP 08254821	A2	19961001	JP 1996-41630	19960228
	US 5942372	A	19990824	US 1996-752342	19961119
	US 5914215	A	19990622	US 1997-911288	19970814
PRAI	US 1995-395352	A	19950228		
	US 1996-752342	A3	19961119		
OS	MARPAT 125:288838				
AB	Improved photopolymn. initiator systems are comprised of a spectral sensitizer that sensitizes in the UV or visible regions of the spectrum and an N-aryl, O-aryl, or S-aryl polycarboxylic acid coinitiator. The improved initiator systems are incorporated in photopolymerizable compns. contg. one or more addn.-polymerizable ethylenically unsatd. compds. to form compns. suitable for the prepn. of radiation-sensitive layers in manuf. of lithog. plates adapted to be imagewise exposed with UV- or visible-light-emitting lasers such as argon-ion lasers and frequency doubled Nd:YAG lasers. Such plates are able to effectively meet the dual requirements of very high photospeed and very good shelf life required in computer-to-plate systems.				
ST	sensitized photopolymerizable compn manuf lithog plate				
IT	Lithographic plates (sensitized photopolymerizable compns. for manuf. of)				
IT	125051-32-3 RL: TEM (Technical or engineered material use); USES (Uses) (CGI 784; sensitized photopolymerizable compns. for lithog. plate manuf. contg.)				

IT 32435-46-4, Kayamer PM-2
 RL: TEM (Technical or engineered material use); USES (Uses)
 (Kayamer PM 2; sensitized photopolymerizable compns. for lithog. plate
 manuf. contg.)

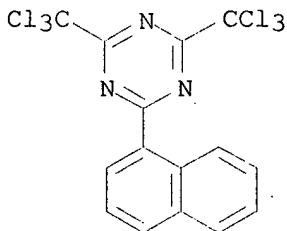
IT 28961-43-5, Sartomer 9008
 RL: TEM (Technical or engineered material use); USES (Uses)
 (Sartomer 9008; sensitized photopolymerizable compns. for lithog. plate
 manuf. contg.)

IT 147-14-8, Copper phthalocyanine 1137-73-1, Anilinediacetic acid
 3524-68-3, Pentaerythritol triacrylate 4395-58-8 6359-05-3, Ethyl
 eosin 6542-67-2, 2,4,6-Tris(trichloromethyl)-s-triazine 7189-82-4
24481-46-7 30042-69-4 34100-36-2 58109-40-3,
 Diphenyliodonium hexafluorophosphate 63123-42-2 63226-13-1,
 3,3'-Carbonylbis(7-diethylaminocoumarin) 77831-38-0 116450-61-4
 116450-65-8 116450-67-0 117522-01-7, Tetramethylammonium
 butyltriphenylborate 125604-88-8, 4-(Octyloxyphenyl)phenyliodonium
 tosylate 182807-57-4
 RL: TEM (Technical or engineered material use); USES (Uses)
 (sensitized photopolymerizable compns. for lithog. plate manuf. contg.)

IT **24481-46-7**
 RL: TEM (Technical or engineered material use); USES (Uses)
 (sensitized photopolymerizable compns. for lithog. plate manuf. contg.)

RN 24481-46-7 HCAPLUS

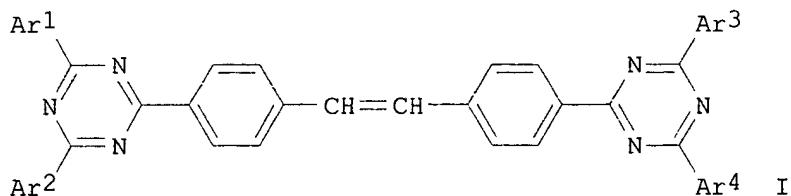
CN 1,3,5-Triazine, 2-(1-naphthalenyl)-4,6-bis(trichloromethyl)- (9CI) (CA
 INDEX NAME)



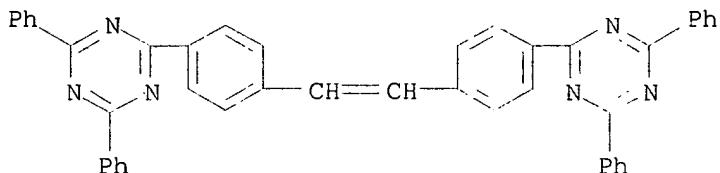
L11 ANSWER 13 OF 15 HCAPLUS COPYRIGHT 2002 ACS
 AN 1996:184374 HCAPLUS
 DN 124:246169
 TI Organic field-effect **electroluminescent** device
 IN Sato, Yoshiharu
 PA Mitsubishi Kagaku Kk, Japan
 SO Jpn. Kokai Tokyo Koho, 9 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C09K011-06
 ICS H05B033-14
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related
 Properties)
 Section cross-reference(s): 28

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08012967	A2	19960116	JP 1994-147730	19940629
OS	MARPAT	124:246169			
GI					



- AB The device has an org. light-emitting layer contg. a 4, 4'-bis(triazinylstilbene) deriv. described by the general formula I (Ar1-4 = aryl, biphenyl, arom. heterocyclic group; Ar1-4 may be substituted) and a hole-transporting layer between an anode and a cathode on a substrate. The device showed high and stable luminance.
- ST triazinyl stilbene **electroluminescent** device
- IT **Electroluminescent** devices
(field-effect **electroluminescent** device having bis(triazinylstilbene) deriv. light-emitting layer with high and stable luminance)
- IT 6888-33-1
RL: DEV (Device component use); USES (Uses)
(field-effect **electroluminescent** device having bis(triazinylstilbene) deriv. light-emitting layer with high and stable luminance)
- IT 6888-33-1
RL: DEV (Device component use); USES (Uses)
(field-effect **electroluminescent** device having bis(triazinylstilbene) deriv. light-emitting layer with high and stable luminance)
- RN 6888-33-1 HCAPLUS
- CN 1,3,5-Triazine, 2,2'-(1,2-ethenediyli-4,1-phenylene)bis[4,6-diphenyl-(9CI) (CA INDEX NAME)



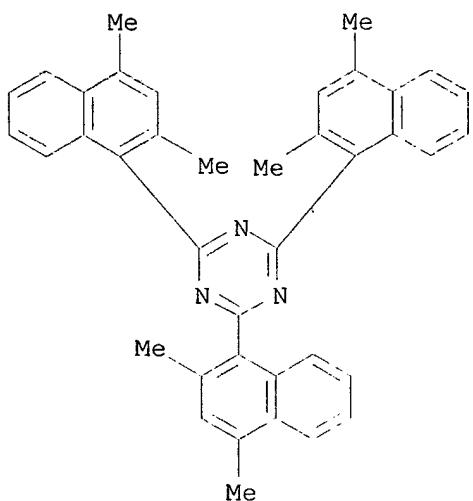
- L11 ANSWER 14 OF 15 HCAPLUS COPYRIGHT 2002 ACS
- AN 1995:735391 HCAPLUS
- DN 123:156343
- TI Amorphous organic thin film device with excellent heat-resistance, amorphous organic polymer compositions and amorphous inorganic compositions
- IN Naito, Katsuyuki
- PA Tokyo Shibaura Electric Co, Japan
- SO Jpn. Kokai Tokkyo Koho, 26 pp.
- CODEN: JKXXAF
- DT Patent
- LA Japanese
- IC ICM H01L051-00
- ICS C08K005-00; H01L049-00
- CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other

Reprographic Processes)

Section cross-reference(s): 41, 73, 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07094807	A2	19950407	JP 1994-48092	19940318
	US 5707779	A	19980113	US 1996-701991	19960823
PRAI	JP 1993-184652		19930727		
	JP 1994-48092		19940318		
	US 1994-281034		19940727		
AB	The title device contains dyes, R(XY) _n or R'Y _n [R = arom. frame; R' = hetero arom. frame; X = specified connecting group; Y = dye frame; n .gtoreq. 3].				
ST	amorphous org thin film device; electrophotog photoreceptor amorphous thin film				
IT	Electric rectification				
	Electroluminescent devices				
	Electrophotographic photoconductors and photoreceptors				
	Optical filters				
	Photoelectric devices, solar				
	Spectral hole burning				
	(amorphous org. thin film device with excellent heat-resistance, amorphous org. polymer compns. and amorphous inorg. compns.)				
IT	Memory devices				
	(optical disks, amorphous org. thin film device with excellent heat-resistance, amorphous org. polymer compns. and amorphous inorg. compns.)				
IT	Optical instruments				
	(swatches, amorphous org. thin film device with excellent heat-resistance, amorphous org. polymer compns. and amorphous inorg. compns.)				
IT	108-77-0 135-19-3, 2-Naphthalenol, reactions 575-41-7, 1,3-Dimethylnaphthalene 4422-95-1, 1,3,5-Benzenetricarbonyl trichloride 17223-85-7, N-Aminocarbazole 53338-48-0 159222-58-9				
	RL: RCT (Reactant) (org. dyes from)				
IT	166306-88-3 166306-89-4 166306-90-7 166306-91-8 166306-92-9 166306-93-0 166306-94-1 167115-58-4 167172-68-1 167172-69-2 167172-70-5				
	RL: DEV (Device component use); USES (Uses) (org. dyes of thin film devices)				
IT	4532-28-9P 159222-53-4P 159222-54-5P 166306-86-1P 166306-87-2P				
	RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses) (org. dyes of thin film devices)				
IT	166306-87-2P				
	RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses) (org. dyes of thin film devices)				
RN	166306-87-2 HCPLUS				
CN	1,3,5-Triazine, 2,4,6-tris(2,4-dimethyl-1-naphthalenyl)- (9CI) (CA INDEX NAME)				



L11 ANSWER 15 OF 15 HCAPLUS COPYRIGHT 2002 ACS
 AN 1994:521739 HCAPLUS
 DN 121:121739
 TI Photosensitive composition containing acid-releasing agent and manufacture of color filter
 IN Hishiro, Yoshiki; Takeyama, Naomiki; Yamamoto, Shigeki
 PA Sumitomo Chemical Co, Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03F007-038
 ICS G02B005-20; G03F007-004; G03F007-022; G03F007-029
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 38
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06051513	A2	19940225	JP 1992-201039	19920728
AB	Claimed are (a) photosensitive compn. contg. a water-sol. polymer and an acid-releasing agent and (b) manuf. of a color filter by a process including following successive steps; (1) coating a compn. contg. acid-curable resin and a crosslinking agent on a substrate, (2) depositing a photosensitive compn. described, (3) photolithog. patterning, and (4) coloring the resulting neg.-working pattern, or (1') coating a compn. contg. acid-curable resin, a crosslinking agent, and a colorant, (2') coating the photosensitive compn., and (3') photolithog. patterning. The photosensitive compn. e.g., a mixt. of poly(vinyl alc.) and 2,6-di(trichloromethyl)-4-(p-methoxyphenyl)triazine, provides a color filter with solvent-resistant accurate pattern.				
ST	color filter photosensitive resin compn; acid releasing agent color filter; neg working photoresist color filter; polyvinyl alc triazine color filter; water sol polymer color filter				
IT	Optical filters (color filter, manuf. of, neg.-working photoresist assocd. with photosensitive compn. contg. water-sol. polymer and acid-releasing agent for)				

- IT Phenolic resins, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (novolak, cresol-based, neg.-working photoresist from, assocd. with
 photosensitive compn. contg. water-sol. polymer and acid-releasing
 agent, for manuf. of color filter)
- IT Resists
 (photo-, neg.-working, assocd. with photosensitive compn. contg.
 water-sol. resin and acid-releasing agent, for manuf. of color filter)
- IT 3584-23-4 69432-40-2
 RL: USES (Uses)
 (acid-releasing agent, contg. water-sol. polymer, for manuf. of color
 filter from neg.-working photoresist)
- IT 147-14-8, C.I. Pigment Blue 15 5601-29-6, Oleosol Yellow 2G
 12237-24-0, Oleosol Blue EL 61725-85-7, Oleosol Red BL
 RL: USES (Uses)
 (colorant, neg.-working photoresist contg., for manuf. of color filter,
 photosensitive compn. for)
- IT 9003-08-1, Formaldehyde-melamine copolymer 27029-76-1,
 Formaldehyde-m-cresol-p-cresol copolymer 59269-51-1, Poly(vinylphenol)
 110123-09-6, Maruka Lyncur CHM 156409-67-5, ARG 30
 RL: USES (Uses)
 (neg.-working photoresist from, assocd. with photosensitive compn.
 contg. water-sol. polymer and acid-releasing agent, for manuf. of color
 filter)
- IT 69432-40-2
 RL: USES (Uses)
 (acid-releasing agent, contg. water-sol. polymer, for manuf. of color
 filter from neg.-working photoresist)
- RN 69432-40-2 HCPLUS
- CN 1,3,5-Triazine, 2-(4-methoxy-1-naphthalenyl)-4,6-bis(trichloromethyl)-
 (9CI) (CA INDEX NAME)

